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DUODENAL STENOSIS.

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CONGENITAL occlusion of the duodenum is a very uncommon condition; atresia is much more frequent than stenosis, and the prolongation of life for more than a few days in a case of stenosis is an extremely rare event. In the present instance the patient lived for over thirteen months, although the degree of stenosis was so great that it would only admit the passage of a small probe. In 48 cases of atresia the duration of life was 30 hours to 9 days (Cordes); and in 9 of stenosis collected by Cordes the duration was 30 hours (Dohrn), 40 hours (Aly), 3-4 days (Darier), 5 days (Hecker, Wallman), first week (Theremin), 7 days (Serr), 12 days (Theremin), and 6 months (Theremin). Shaw's case of stenosis at the duodeno-jejunal juncture (Spriggs) lived 14 days.

Harrison's patient (reported by Spriggs and Keith, the specimen being in St. Bartholomew's Hospital Museum), is in many respects similar to the one here recorded, and lived for *nine months*. During life there were recurrent attacks of vomiting (not bilious) at intervals of a few days, and no stools were passed normally. The pylorus

and first part of the duodenum were widely dilated. There was a diaphragm, with no evidence of an orifice therein, above or just opposite the entrance of the bile-duct.

In Buchanan's case (Spriggs) of partial stenosis life was prolonged for eighteen months, but it is hardly an analogous case. Vomiting and convulsions only developed a short time before death. The bile-duct opened above, and the pancreatic duct below, a partial duodenal septum, with a central aperture of 2.5 mm. diameter.

Spriggs also mentions in his list three cases in adults: (1) Female, aged 34 years (Silcock), with a partial congenital septum and no dilatation of the duodenum; (2) male, aged 40 years (Moore), with stricture by a ring of mucous membrane, apparently congenital, at the duodeno-jejunal junction; (3) female, aged 47 years (Carling), with a stricture at the same site, admitting a probe, the symptoms having existed for only one year. I am inclined to place strictures in this situation in a different category from those in the neighbourhood of the entrance of the common bile-duct.

NOTE OF THE PRESENT CASE.

A male infant, aged 12 months, was brought to see me in May, 1918, on account of attacks of fever and vomiting. He was a first-born child, full-time, and weighing six pounds. Icterus neonatorum persisted for about two weeks. At ten days of age he had a "convulsion" while nursing, but had no subsequent attacks.

Breast-feeding was continued for five months, with the addition of one bottle daily of milk and water at four months of age. He was then weaned, and, not being able to retain milk and barley water or Glaxo, was fed on peptonised milk for several months and, later, on Allenburys' foods, meat juice, and Scott's emulsion. At the time of his visit he was taking Allenburys' No. 3 food with milk (12 oz.) and water (10 oz.) in amounts of 3-4 oz. every 2½ hours.

All his life he had been liable to feverish attacks, temperature 101-104° F., with "green sickness," bringing up mucus and passing it *per anum*. These attacks had become worse since September. He was very bad during February, well during March, and ill on and off since. The stools were described as soft, green, and very offensive. His weight was 10 lb. 4 oz. on October the 23rd; 11 lb. 4 oz. on November the 26th; 12 lb. 6 oz. on January the 7th; 10 lb. 2 oz. on March the 1st; 11 lb. 11 oz. on May the 1st; and on May the 23rd only 10 lb. 3 oz., being an ounce less than seven months ago. On examination the child was wasted and weak, but could hold his head up and sit up with a little assistance.

He had no teeth, a small head, $16\frac{1}{4}$ in. diameter, a slight degree of hypotonia, and was said to be Mongolian, though the evidence thereof seemed insufficient. The stomach was considerably dilated and gastric peristalsis very marked, a doubtful swelling being felt in the pyloric region.

In view of the grave condition of the child and the impossibility of life unless the obstruction could be relieved, he was taken into hospital for an exploratory operation. The diagnosis was suggestive of moderate pyloric stenosis, with secondary attacks of increase in the obstruction from spasm or swelling of the mucous membrane. But the age of the child and the attacks of "green sickness," with bile probably in the vomit, were contra-indications.

On exploration three days later the pylorus was found widely dilated, and the obstruction was undoubtedly situated lower down, but the state of the child did not warrant further exploration or gastro-enterostomy.

During the next five days he was free from vomiting and gained weight. At the end of another week he was not so well, having vomited a lot of green fluid the previous night, and gastric peristalsis was marked. He was treated by lavage. On the next day he collapsed, the temperature rose to 104° F., and he died during the night, having attained the age of one week over thirteen months.

Post-mortem.—Stomach dilated and hypertrophied; pylorus widely dilated, admitting the first finger. The first part of the duodenum was dilated into a more or less spherical sac over two inches in diameter. The second part, for a distance of an inch, was extremely stenosed, merely admitting the passage of a probe; and the duct entered about the middle of the stenosed portion. There were no other abnormalities.

A remarkable feature of the case is the prolonged duration of life with such an extreme degree of stenosis. Of course, sufficient food passed through for the maintenance of life, and even periodical gain in weight, the attacks of vomiting being due to decomposition of retained gastric contents. There was no history of any attack of tetany.

It is possible that this child might have been cured by operation at an earlier stage of its existence, an anastomosis being made between the stomach or the dilated part of the duodenum and a loop of jejunum. Ernst, of Copenhagen ('Brit. Med. Journ.,' 1916, vol. i, p. 644), reported the first successful case of duodenal stenosis below the papilla treated by duodeno-entero-anastomosis, in a boy, aged 10 days.

HISTORICAL SURVEY.

Apparently Aubéry, in 1803, recorded the first case. Meckel, in 1812, quoted two instances at the duodeno-jejunal juncture. Schäfer and Rokitsky added cases in 1824, and Guyot one in 1829. Billard mentions Schäfer's case in his book on 'Diseases in the Newborn' (1837). Collections have been made by various writers, usually in conjunction with cases of intestinal atresia and stenosis. The most important summaries of duodenal cases are:

1862. Hirschsprung	16	.	1901. Cordes	.	57
1882. Silbermann	24	.	1903. Kuliga	.	46
1883. Gärtner	16	.	1912. Spriggs	.	92
1891. Schegel	29	.	1912. Cowell	.	92

The last four papers are the most valuable ones on the subject. Cowell added 35 cases to those of Cordes, making a total of 92; these papers deal with duodenal cases only. Spriggs collected 328 cases of congenital intestinal occlusion, of which 92 were duodenal. In his list of duodenal cases he does not include three mentioned by Cordes, although the references thereto are given, viz.:

1847 (Boyd).—A transverse membrane closing the gut completely, and a valve, two and a half inches higher, nearly closing it.

1864 (Schuppel).—Below the bile papilla.

1884 (Thomas).—A dilated duodenum ending blindly, and the rest of the gut absent as far as the descending colon; imperforate anus.

Spriggs includes three doubtfully congenital cases in adults (*v. supra*, Silcock, Moore, and Carling); a case of contraction and thickening of the duodenal wall in an adult (Perry and Shâw); and a case of kinking of the end of the duodenum over a band, with no real obstruction (Durante).

Add to these cases recorded by Ernst, Gardner, Gray, Grimsdale (Ashby and Wright: 'Diseases of Children'), Grosse and Le Louer, Cockayne, van der Bogert, McDonald, Cowell, Veszprémi, and the present one, making a total of about a hundred.

In Grimsdale's case there was actual interruption in continuity of the gut, the upper part ending in a *cul-de-sac*.

Gray's patient, a twin who died on the fifth day, also had complete interruption of the gut for 4 mm., just above the entrance of the duct, and rectal atresia one inch above the anus.

In Cowell's case, a four weeks' premature infant who died in fifty-two hours, the duodenum ended abruptly 10.2 cm. from the pylorus, above the papilla, in a narrow cord 0.5 cm. long.

In Cockayne's patient, a full-time boy who died on the fifth day,

the first part of the duodenum ended in a blind *cul-de-sac* and was connected by mesentery only with the rest of the gut. The gap was occupied by the head of the pancreas and the pancreatic duct entered the blind sac. The bile-duct opened into the lower portion and no abnormal bile-duct was found, although a large amount of bilious fluid was vomited. Normal meconium was passed on the second day. There was an excess of green liquor amnii.

In Gardner's case the stenosis was incomplete, 2.5 mm. diameter, about the level of the papilla.

Grosse and Le Louer reported a case of atresia and short uniting band in a girl, dying on the fifth day; an enlarged gland and peritonitis were found at autopsy. In McDonald's patient, aged 4½ days, there was atresia at the duodeno-jejunal juncture, and no orifice of the bile-duct was found. And in van der Bogert's case, aged 4 months, there was an incomplete obstruction of the duodenum two and a half inches from the pylorus.

A doubtful case is reported by Francioni in a male, aged 47 days, with dilatation of the upper part of the duodenum and stenosis and ulceration, probably secondary, opposite the papilla.

Terry and Kilgore also record a case in a male, aged 24 years, with an even constriction, to about a third of the normal diameter, at the junction of the first and second portions; probably one of acquired stenosis and similar to Perry and Shaw's case.

SITE OF THE DEFECT.

The main characteristic group of cases includes those in which the defect is in the neighbourhood of the papilla of Vater, the point of entrance of the common bile-duct into the duodenum (67 out of 92 cases: Spriggs). In another group are placed those at the duodeno-jejunal junction. The first group may be subdivided according to the site of the defect being above, opposite, or below the papilla.

1. (a) *Above the papilla*.—Cordes, 20 (immediately above, 10); Cowell, 11; Spriggs, 29 (? omit 1, Perry and Shaw); Cockayne, Cowell, Grimsdale, Gray.
- (b) *Opposite the papilla*.—Cordes, 6; Cowell, 3; Spriggs, 17 (? omit 2 cases, Silcock, Durante); 2 cases of stenosis, Gardner, Cautley.
- (c) *Below the papilla*.—Cordes, 13 (immediately below in 2); Cowell, 7; Spriggs, 21 (? Speyer's case should be put in Group 2; so, too, Schäfer's case, mentioned by Billard).
2. *At duodeno-jejunal flexure*.—Spriggs, 15; Thomas, 1 (?); MacDonald, 1 (atresia, no opening of bile-duct; death at 4½ days).

3. *Unclassified*.—Cordes, 18 ; Cowell, 14 ; Spriggs, 10 (including Harrison's patient, who lived 9 months *v. supra* ; Spriggs ; Keith).

TYPE OF OCCLUSION.

Mere narrowing—*i. e.* an annular constriction partially or entirely obliterating the lumen—is rare ; so, too, the presence of a complete or perforated diaphragm, due to reduplication of the wall, and consisting of the usual coats of the gut, not merely hypertrophied *valvulæ conniventes*. Usually there is an upper segment ending in a *cul-de-sac*, and connected with a lower segment by—(1) a short band ; (2) a thread-like band ; (3) mesentery only (a rare type, in which there is complete interruption in the continuity of the gut).

In stenosis the intervening segment connecting the upper and lower portions is of varying length and degree of constriction. Atresia may be erroneously diagnosed as stenosis because of an apparently direct communication between the two segments, the communication taking place indirectly *viâ* a branch of the duct which opens into the upper segment ; a probe can be passed through this and the common duct into the lower segment.

PATHOGENESIS.

Bland Sutton maintains that malformations occur at the site of "embryological events." This hypothesis affords a reasonable explanation of the bulk of these cases, namely, those occurring in the neighbourhood of the papilla of Vater ; but it hardly holds good for some of the cases of occlusion at the duodeno-jejunal juncture, multiple occlusions of the gut, or malformations near the ileo-cæcal valve.

According to Tandler (1900) and others, the Vaterian segment of the duodenum is occluded by epithelial proliferation during the second month of foetal life, and atresia is due to failure of the plug to break down or become canalised. Stenosis can be ascribed to partial canalisation. This hypothesis will account for multiple occlusions, sometimes ascribed to *volvulus*. Ager (1910) states that in embryos of about 12 mm. long—*i. e.* in about the fifth week of foetal life—the duodenum is temporarily obliterated. The liver also begins to develop in the fourth week of foetal life as a diverticulum from the anterior wall of the duodenum, and the pancreas from a bud on the posterior wall. With so many important developments occurring at this time in this region, the hypothesis of developmental defect is very probably true. Moreover, it is supported by the fact that other congenital developmental defects are often associated with it—*viz.* 11 in 57

cases (Cordes); imperforate anus or rectum in about 5 per cent.; absence of one or more organs (4 cases: Cordes); atresia of œsophagus and rectum (Markwald); atresia of urethra and rectum (Hess); absence of a large portion of gut (Thomas); patent septum ventriculorum (Veszprémi), etc. In 54 out of 66 cases there were no other abnormalities.

Anomalies of the bile-duct are not infrequent. Either the common duct or one hepatic duct may be absent; or the common duct may divide into two branches, one of which may open into the stomach or even into the large intestine. This is another indication of the tendency to malformations in this region.

In duodenal occlusions the duct does not always open into the distal extremity. In 21 out of 92 cases the obstruction was below the orifice of the duct. Cordes found, in her case of atresia above the level of the papilla, that a branch of the common duct entered the upper segment of the gut. This affords an explanation of the occurrence of bile in the vomit in such cases, and has been verified in several instances.

Of the other explanations put forward to account for the malformations, some may be accepted as occasional causes, more especially if the occlusion is at the duodeno-jejunal juncture. These are of the nature of ante-natal pathological processes rather than primary developmental defects. For instance, Simpson (1838) collected 14 cases of foetal peritonitis, and added 9 more, chiefly in stillborn infants, but a few survived birth. One of these (Billard) had stenosis of the lower end of the duodenum; another (Morgagni) had multiple atresia of the ileum and colon. Dohrn ascribed his case of duodenal occlusion, and Theremin his two cases, to peritonitis, and Freeman found fibrosis round the stricture in the case he reported. Probably such peritonitis is syphilitic rather than tuberculous.

Other causes have been assigned as possible explanations of a few cases, viz.:

Pressure by head of pancreas (5) or liver (1); secondary inflammation and ulceration.

Hypertrophic valvulæ conniventes—a view not supported by microscopic evidence.

Absence of arterial branches (Jaboulay, 1891); of pancreaticoduodenal artery (Wyss, 2 cases).

Traction by inguinal hernia (Wünsche).

And cases of intestinal atresia have been ascribed to causes such as intra-uterine enteritis, embolism of the superior mesenteric artery, undue persistence of the omphalo-mesenteric duct and volvulus.

The presence of true meconium in atresia below the bile papilla indicates that the abnormality must have occurred after the formation of bile. A gall-bladder is found in the third month of foetal life, and, according to Cordes, bile is discharged into the duodenum by the fourth month. Savariaud states that it is not discharged until the fifth month, and does not reach the large intestine until the seventh month. If the hypothesis is accepted that occlusion is due to non-absorption of the temporarily obliterated duodenum (Ager) in the fifth week, no bile will be found in the gut and no true meconium unless there is an aberrant bile-duct opening into the gut lower down.

SYMPTOMS.

Vomiting, with the usual signs of obstruction, is the characteristic feature. It may occur even if no food is given by mouth, the stomach becoming distended by normal secretion. Bilious vomiting occurs in about 90 per cent. of the cases, and, if the obstruction is above the entrance of the common duct, is probably due to an aberrant branch opening into the dilated first part of the duodenum. Hæmatemesis is not uncommon.

Naturally, inanition, wasting and constipation are marked features. If food is taken, and life prolonged, as in some cases of stenosis, the stomach and first part of the duodenum become dilated and hypertrophied, and there is marked gastric peristalsis. The symptoms are practically the same as those of congenital hypertrophic stenosis of the pylorus, unless bilious vomiting is also present. A dilated first part of the duodenum gives the sensation of a pyloric tumour, but it is neither so hard nor so defined as in pyloric hypertrophy. It is perhaps needless to point out that no medical treatment is of real benefit, and that possibly life may be saved in isolated cases by early surgical measures. Many of these infants are premature.

Valuable bibliographies are given by Spriggs, Cowell and Cordes, and a few further references are added.

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CATARRHAL JAUNDICE ASSOCIATED WITH INFLUENZA IN CHILDREN.

By E. BRONSON, M.D.

DURING the autumn epidemic of influenza (1918) I was impressed by the fact that I was seeing an unusually large number of instances of catarrhal jaundice in the Medical Out-patient Department of the Hospital for Sick Children, Great Ormond Street. Unfortunately I did not make any special note of the earlier of these, but in six weeks I collected the cases described below. They may be divided conveniently into (i) children in whom jaundice followed exposure to influenza, but who did not develop influenza in the ordinary sense; (ii) children who developed jaundice as a sequel to an attack of influenza; (iii) doubtful cases in which there was no known exposure to influenza.

GROUP I.

CASE 1.—E. C—, a girl, aged $3\frac{1}{2}$ years. A sister was taken ill with influenza. Three days later the patient was seedy, and vomited. The vomiting persisted for three days and nights, the motions became clay-coloured and the urine dark. Icterus was noted about the same time that the vomiting ceased. Icterus was still present, as well as enlargement of the liver, when I saw her two weeks after the onset.

CASE 2.—A. D—, a boy, aged $8\frac{5}{12}$ years, complained of general pains, and vomited for four days before whitish motions and icterus were noted. He had no coryza and no sore throat, and apparently

no temperature. When I saw him a fortnight after the onset icterus was still present, and the liver was 3 cm. below the costal margin. He had not completely recovered when seen again two weeks later.

He lived with his mother, who did not develop influenza, but three days before he was taken ill two girls in the same house, with whom he played daily, were taken ill with typical attacks.

CASE 3.—G. S—, a girl, aged $5\frac{1}{2}$ years. Six members of the family had had influenza in the three weeks preceding her visit to the hospital. Two weeks ago she had vomited and complained of abdominal pain and headache. She had no cough and no cold. Ten days ago she began to be yellow and to pass "strong" urine. On examination she was intensely yellow and the liver reached nearly to the umbilicus. Examination of the throat showed no acute congestion. A week later she was still yellow.

CASE 4.—S. J. W—, a boy, aged 8 years. His mother had been very ill with influenza for one week when he complained of pains all over and was sick. He was put to bed, and his sickness continued several days. Icterus developed the third day. He had no sore throat, no cold, and no bronchitis, and his mother is very positive that he did not have influenza. I saw him on the tenth day of illness. The liver was down to the umbilicus and icterus was still marked. There were no signs of inflammation of the upper respiratory tract. He had recovered when I saw him again in a fortnight.

CASES 5 AND 6.—M. L—, a girl, aged $3\frac{8}{12}$ years, and her brother, aged $6\frac{8}{12}$ years, were seen at the hospital with jaundice on the same day. Twelve days previously an aunt with whom they lived had been taken ill with influenza. About the same time M. L— was sick and complained of pain in her right side and back. She had no cold. In four days the brother, too, was sick. By the end of a week both were yellow, drowsy, and were passing white motions. When seen icterus was present in both, with enlargement of the liver. They had no sore throat and no bronchitis.

CASE 7.—S. P—, a boy, aged $9\frac{1}{12}$ years. Ten days to two weeks before he came to the hospital four brothers and sisters developed influenza. At the same time the patient was rather seedy for a few days, then was violently sick, retaining no food for four days, when he became intensely yellow, as he was still when seen. The liver was nearly down to the umbilicus. There were no signs of involvement of the respiratory tract. The other members of the family recovered without complications.

CASE 8.—P. W—, a girl, aged $7\frac{3}{12}$ years. Each member of the

family except the patient developed influenza one after another, the latest onset of the disease being six days before she started to be sick. When seen two days later icterus was just becoming noticeable, and the liver was 3 cm. below the costal margin.

CASES 9, 10, 11 and 12.—R. G—, a boy, aged $10\frac{7}{12}$ years, was brought to the hospital towards the end of November, with the history that about six weeks previously he had been taken suddenly ill with vomiting. The following day his skin began to be yellow and his motions were clay-coloured. He became drowsy and the icterus increased. He stayed in bed for two weeks. He had no cold, no bronchitis, and did not feel hot. Three or four days after his illness started his mother was taken ill with influenza. She developed no jaundice. H. G—, a boy, aged $8\frac{8}{12}$ years, was taken ill very like his brother one week after the onset in the latter. B. G—, a sister, aged 7 years, was taken ill in a similar manner the following day. E. G—, another sister, was sent to stay with friends, and developed jaundice the third day after her arrival. One child, aged 6 years, escaped any illness. An infant aged 14 months, who had been quite healthy up to that time, developed "dysentery," and was seriously ill.

The jaundice in these children lasted about two weeks except in the patient, whose conjunctivæ were yellow, and whose liver was about 3 cm. below the costal margin when seen. He has since recovered completely.

GROUP II.

CASE 1.—A. M—, a girl, aged $7\frac{2}{12}$ years, was taken ill with influenza a few days after the onset of the disease in her mother. In ten days, when she was considered convalescent, she began to be sick, and icterus was noted. This persisted with enlargement of the liver for eight weeks.

CASE 2.—G. H—, a girl, aged $9\frac{10}{12}$ years, developed jaundice one week after the onset of influenza. The attack was typical, with vomiting, clay-coloured motions, and highly-coloured urine, but lasted only one week. At the same time the entire family had influenza, but no one else had jaundice. This child had had jaundice on two previous occasions during the past year, each associated with colds. Between the attacks she is a healthy child, with no enlargement of the liver or spleen.

CASE 3.—This case is an adult, A. E. J—, female, aged 23 years. She had a typical attack of influenza, with temperature of about

103° F. On the fifth day, when her temperature was subsiding, she began vomiting. On the seventh day icterus and grey motions were noted. By the end of the second week the liver was barely palpable and the icterus fading.

GROUP III.—DOUBTFUL CASES.

CASE 1.—E. D—, a boy, aged $4\frac{1}{2}$ years. Four weeks before he was seen both he and his father had attacks of influenza. He had been ill three or four days only, then was playing with other children in the street, several of whom have developed influenza during the past few weeks. However, it was not until three weeks after his own illness that he began to vomit and icterus appeared. He was intensely yellow when seen. Icterus with enlargement of the liver persisted for a month.

I class this case as doubtful because of the interval of three weeks between the attack of influenza and that of jaundice. The possibility that he was re-infected by association with his playfellows is, of course, without proof.

CASES 2 and 3.—F. U—, a girl, aged $10\frac{6}{12}$ years, had an attack of jaundice which persisted for three weeks at the height of the autumn epidemic of influenza. In July of 1918 and also once in 1915 she had had similar illnesses. I have seen her occasionally during the past year, and between the attacks she is healthy, with no enlargement of the spleen or liver.

Two weeks after the onset of her latest illness, her sister, N. U—, aged $11\frac{1}{2}$ years, began to vomit. After several days of vomiting she, too, had whitish motions, highly-coloured urine and icterus. Icterus and enlargement of the liver were present when I saw her at the end of the second week. She had had no previous occurrence of jaundice.

In neither of these children is there any history of direct exposure to influenza, and against there being any relationship, is the fact that neither parent nor any of the other children developed the disease.

CASE 4.—J. M—, a girl, aged 8 years, was taken ill with vomiting, and developed a typical attack of catarrhal jaundice. She recovered in about a fortnight. Her illness occurred in October, 1918, but the mother knew of no direct exposure to influenza, and she gave it to no other member of her family.

After the epidemic of the influenza had subsided, from January the 1st to February the 13th, I continued to make notes on the cases of catarrhal jaundice as a check in numbers against the cases

seen during the autumn epidemic. E. N—, a girl, aged $3\frac{4}{12}$ years, and a sister aged 2 years, had typical attacks at the same time. They had no colds. They, as well as other members of the family, had had influenza three months previously. R. C—, a girl, aged $4\frac{1}{12}$ years, also came to the hospital for jaundice during the six weeks. I had not kept statistics previously, but I think I am safe in saying that except during the influenza epidemic I have not seen more than two cases of jaundice a month in the Out-patient Department of the Great Ormond Street Children's Hospital during the past year.

The association of jaundice with influenza is well known, yet comparatively few cases of such association have been described in the recent epidemic. Dawson and Hume in their monograph on "Jaundice of Infectious Origin" state that in their series they had examples of the association of jaundice and influenza. They speak of the enlargement of the spleen in such cases. There was no demonstrable enlargement of the spleen in my series. In regard to the diagnosis of the jaundice as influenzal in ætiology they say—"A tentative early opinion can be formed, for the disease seldom exists without the characteristic catarrhal manifestations in the upper respiratory tract." They add: "It is relatively uncommon in the expeditionary force." It is to be noted that in my series few had any respiratory symptoms whatsoever, and rarely was there a history of a cold.

Abrahams, Hallows and French mention the occurrence of jaundice in one of their cases of influenza in an army camp, and refer to the presence of fifteen cases in an American camp.

Royster, in a paper on "Grip in Children" read before the American Medical Association, does not mention jaundice among the complications, nor is it mentioned in a lengthy discussion of this paper.

In a small epidemic of "grip" which developed in the vaginitis ward of the New York City Children's Hospital, Randall's Island, in 1915, three cases of "grip" developed also catarrhal jaundice. These children had otitis media also—a complication which did not occur in my present series.

SUMMARY.

(1) Notes of 12 cases of acute catarrhal jaundice in children who had been exposed to influenza, but who had not had the disease in its usual form.

(2) Notes of 2 children and 1 adult in whom jaundice followed a typical attack of influenza.

(3) Notes of 4 doubtful cases of the association of influenza and jaundice.

(4) Notes of 3 control cases of catarrhal jaundice which were seen after the epidemic had subsided.

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INFLUENZA IN INFANTS.*

By C. ACHARD.

ONE of the peculiarities which has been noted in the present epidemic of influenza is the rarity of the disease in infants, and it has been thought that the newborn were immune to it. We have had the opportunity, however, of observing in our little *crèche* at the Hôpital Necker 32 cases below two years of age, which were classified as follows: Uncomplicated influenza, 6 cases, 6 recoveries; influenza with bronchitis or slight pulmonary congestion, 12 cases, 11 recoveries, 1 death; influenza complicated by broncho-pneumonia, 13 cases, 3 recoveries, 7 deaths, taken away from hospital before recovery, 1 case.

In most of the cases the children were admitted in an advanced stage of the disease, on the seventh or eighth day. In the few infants who fell ill after they had been some time in the *crèche*, influenza always started with the same initial symptoms which are common to most acute diseases with a sudden onset. The child becomes restless and feverish, has some vomiting or a little diarrhœa, and refuses the breast. The prodromal symptoms are followed by coryza often accompanied by lacrymation. In one case the first sign was an attack of convulsions. Cough almost always occurred later, on the third or fourth day. The temperature is raised from the first, sometimes as high as 102·2° F.

In six cases the disease ran its course in a few days without complications. The temperature rose to about 104° F. Coryza, a slight cough, some digestive disturbances and slight prostration

* A paper read before the Académie de Médecine, Paris, on March the 18th, 1919.

were the only phenomena observed. Examination of the chest was negative throughout the disease. Fall of the temperature occurred on the third or fourth day and recovery was rapid.

All the other cases were examples of the thoracic form of influenza. Digestive symptoms were the exception, except at the onset, and were never severe. The fever did not bear any relation to the gravity of the infection, the temperature being as high in simple bronchitis as in cases complicated by broncho-pneumonia. The presence of this serious complication was shown by the dyspnoea with recession of the chest-wall, working of the alæ nasi and cyanosis, leaden colour of the face and constant drowsiness.

The physical signs consisted in sibilant rhonchi scattered over both sides of the chest in the simple forms, in sub-crepitant *râles* of various sizes in the forms with capillary bronchitis, and in blowing respiration, chiefly on inspiration, in the broncho-pneumonic forms. All these signs varied considerably from day to day, and neither their extent nor intensity bore any relation to the gravity of the infection.

The bronchial and purely congestive forms all recovered with one exception, their duration being only a few days—five or six at the most. The duration of the broncho-pulmonary forms was longer, the course of the disease being interrupted by remissions and relapses, as shown on the temperature chart. One child died on the fourth day, and the other deaths occurred on the thirteenth to the fifteenth day. In the three cases which recovered the temperature gradually returned to normal, and convalescence was slow, just as it was in the bronchial forms; the loss of weight amounted to about a pound in a few days and little nourishment was taken, in spite of the temperature being normal. Cough persisted for several weeks, and in four cases tuberculosis was a sequel.

In accordance with the rule in infants' diseases by which the mother or nurse is the principal source of contagious diseases in the newborn, in most of our cases the mother was the first to be attacked and so infected the child. In three instances there was a family epidemic in which the father, mother and older brothers and sisters contracted the disease. In only four cases was the infant the only one to fall ill, no signs of influenza being found in any of the persons connected with it. The explanation of the disease being contracted from persons outside the family is to be found in the inevitable exposure to infection to which the children of the lower classes are subjected in the streets, public conveyances, crowds and places of amusement.

Neither the form nor the gravity of the disease appeared to resemble each other in the mother or the child. In one instance, however, the disease in both assumed special clinical features simulating cerebrospinal meningitis. Lumbar puncture, which was performed several times, yielded negative results, and the fatal termination showed an absence of meningitis both in the mother and the child and the presence of pulmonary lesions exactly similar to those in our other patients.

SUMMARY.

Influenza in the infant is by no means exceptional. The forms of the disease may differ and the gravity vary. The infant does not possess any real immunity, but is merely less exposed to contagion from without, the infection being chiefly contracted from the mother.

A CASE OF ECTOPIA VESICÆ.

By RALPH THOMPSON, Ch.M., F.R.C.S.,

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It is proposed to divide this paper into the following parts:

1. A clinical description of one case.
2. A statement with regard to the anatomy of the case.
3. A description of the operation which was adopted for the relief of the condition.

1. *Clinical Description of Case.*

The patient was born in January, 1918. The extern, who attended at the delivery of the child, states that the umbilical cord was tied in the usual manner, and appeared to be attached at the usual level of the child's body. The condition of ectopia vesicæ was recognised.

Shortly after birth the patient was admitted into the Victoria Hospital for Children, Tite Street, Chelsea. Clinical examination, aided by a beautiful water-colour sketch by Miss G. Miall Smith, enables me to give the following description of the case.

The baby was naturally formed and healthy, except for the lesion of ectopia vesicæ.

Description of lesion.—There is a well-marked protrusion in the lower part of the abdomen, which is covered with ruddy mucous membrane. The swelling is oval in shape, measuring about $1\frac{1}{2}$ in. in vertical extent, and 2 in. in the transverse plane. The swelling is

clearly a sac-like protrusion which contains intestines, and is, therefore, obviously a hernia.

The surface of the mucous membrane is divided, quite symmetrically, into five separate areas.

Two of these areas lie laterally, and culminate below in the orifice of the ureter on each side. These openings are also quite symmetrical. Between these two lateral areas, which are somewhat more bulging than the rest of the protuberance, is a slightly depressed surface, which is triangular in shape, with its base directed upwards and its apex downwards. These three areas, which form the main mass of the protuberance, are nearly surrounded, except below, by two crescentic areas, which lie above and on each side of the swelling. They terminate above in the umbilical region, and below, just beneath the ureteric orifices.

No other openings than the orifices of the ureters can be detected in the ruddy mucous membrane, which is clearly that of the bladder. Below the ureters, and apparently in relation to the skin of the pelvic region and perinæum, there are four solid swellings which are much smaller than that of the bladder.

These swellings are situated nearly symmetrically, two on each side of the middle line, but those of the left side are situated nearer the middle line than those of the right side. One swelling is situated above the other swelling on each side.

The upper swelling is short and rod-like. It is about one-third of an inch long, and directed from without slightly downwards, but chiefly inwards. It terminates in an oval enlargement, the long axis of which is directed downwards and outwards. The enlarged internal extremity is redder than the rest of the mass, which has a skin-coloured surface.

Between the two upper swellings lies the orifice of what is probably the vagina. It is situated in the middle line, and a probe passed through it is found to proceed upwards and backwards, making no communication with the bladder, but its point can be palpated behind the bladder.

Situated about a quarter of an inch behind the probable orifice of the vagina is the puckered orifice of the anus, which presents no abnormality.

External to the anus and on each side of it are two swellings, yellow in colour, lying parallel to and immediately below those previously described. They are clearly skin structures, and terminate internally in slight narrowings, which render the general shape of each mass somewhat cone-like.

The pelvic bones are widely separated from each other, and X rays confirm this clinical finding, and show that, although thus widely separated, the pubis is normally formed, and differs from the usual pubis merely in the absence of union across the middle line with its fellow of the opposite side.

There were no other orifices noticed than those of the ureters, vagina and anus.

2. *Anatomy of Case.*

In connection with the appearance of the five areas described and especially of the middle area, which is bounded laterally by a somewhat prominent area, culminating below in the ureteric orifice, the following unusual condition is of interest. In my collection of dead fœtuses at Guy's Hospital I came across an old specimen rendered very brittle by being preserved in formalin for several years. There was a well-marked ectopia vesicæ, about the centre of which there was a circular opening through which meconium was discharged. This was found to form the termination of the intestine, which was about 18 in. long. There was no large intestine, no cæcum, and no appendix. The rest of the viscera were practically normal, except that the right testicle was represented by a mass of lymphoid tissue, and lay, like its healthy fellow of the left side, at the level of the crest of the ilium on the posterior wall of the abdomen; and, in addition, the following condition was present.

Two symmetrical masses lay upon the back wall of the true pelvis, one on each side of and immediately adjacent to the mid-line, measuring $1\frac{1}{4}$ in. long and $\frac{1}{4}$ in. across, circular in section, and terminating above at the level of the brim of the true pelvis in rounded ends.

Two additional features are to be noted: At the lower end of the extroverted bladder is a transverse slit $\frac{1}{8}$ in. wide which leads into the right mass, which when opened is found to be longitudinally ridged and lined with columnar mucous membrane. There is a well-developed penis lying rather to the left of the middle line in the perinæum. There is a well-developed glans, intact and solid in front but tubular behind. This tubular portion is connected with the normally developing urethral gutter, which passes backwards into a tubular urethra. In fact, there is a penis which has associated with it a hypospadias, which may be merely a stage in the full development of the organ. The urethra is lined with columnar epithelium, and a probe passed through it enters the left mass, which also is longitudinally ridged and lined with columnar epithelium.

Sections were also cut of the mucous membrane of the "ectopia," and it was found that that portion, which was apparently small gut, was lined with villous epithelium, and that the parts external to this portion were covered with transitional epithelium. Now, in the first case the extroverted bladder was divided superficially into five areas, and the suggestion is put forward that the central area between the ureteric region in cases of uncomplicated ectopia vesicæ is intestinal in origin.

The next point which I wish to make in this paper is stated now, because I desire to lead up to it by logical deductions. The point is this: The groove on the dorsal aspect of the penis which forms the condition known as epispadias is *not* the urethra, but is part of the same condition, of which also the ectopia vesicæ forms the main portion. The condition of epispadias is in no way analogous to hypospadias, and complicated theories such as that of the urogenital sinus developing in front of the genital eminence may be dismissed, as also such a fanciful theme as that epispadias is a hypospadias twisted round on to the dorsum of the penis.

First of all it may be admitted that ectopia vesicæ is clinically rather a terrifying condition, but if the clinician will remember that it is a hernia and reduce the mass with his finger he will find that he has to deal with a simple body-cleft, of which indeed there may be varying degrees, such as (1) a urachal fistula; (2) an ectopia vesicæ; (3) an epispadias without ectopia vesicæ.

Secondly, it may be admitted that the failure of pubic union across the middle line is a part, but not an essential cause, of the deformity. It simply follows upon the formation of a body-cleft early in foetal life. As has been stated already the pubic bones are normally formed, but have simply failed to unite. This failure of the pubic bones to form a symphysis pubis may thus be briefly and finally dismissed.

Two theories, which are due to Prof. Shattock and Dr. Berry Hart, are now to be considered.

Shattock ('Trans. Path. Soc., Lond.,' vol. xxxviii, p. 170) suggests as a possible cause of the condition of ectopia vesicæ that, as the cloaca forms, it lays open the anterior wall of the urogenital sinus, and thus produces the condition of extroversion of the bladder. His reasoning is perfectly clear, but it is difficult for one to understand how a cloaca, dependent as it is upon the presence of two tubes, the hind-gut and the allantois, could become cleft without these structures being also cleft.

Shattock actually used the term "cloaca" in his original paper. He has been misquoted as using the term "proctodæum."

But there are some fatal objections to a cloacal and proctodæal cause, and they are :

(i) The proctodæum (at any rate) only takes a very small part in the formation of these regions in mammals.

(ii) The rectum and vagina are frequently perfectly normal, and it is quite impossible to conceive that this would be the case were Shattock's theory correct.

Shattock further states that although epispadias occurs occasionally without extroversion of the bladder, extroversion of the bladder never occurs without epispadias. In the dissection of a specimen which has been recorded in this paper there is a well-marked penis with a distinct hypospadias.

Berry Hart's theory is that the cloaca in the developing embryo is exceedingly thin and formed merely of epiblast, and that it extends from the level of the umbilical region to the level of the perinæum. He thinks that this thin-walled cloaca is burst and thus produces the condition of ectopia vesicæ. The objection which has been raised to this theory is that it is difficult to understand why, if it is due to a burst, the deformity should as a rule be so signally symmetrical and have such a very regular outline.

I would therefore suggest that we should go back to the old view of a possible fault in the allantois. My remarks will be divided into numbered paragraphs.

(1) There is in the lower animals a tube which stretches from the hind-gut towards and through the umbilicus.

(2) This tube is known as the allantois.

(3) In man, apparently, the allantois is developed as a solid rod of cells only, but still in connection with the hind-gut.

(4) It is conceivable, however, that this solid, rod-like mass of cells might become tubular, and, in fact, does in part become tubular, as it is generally agreed that the allantois forms the apical part of the bladder and urachus, the former of which structures is always and the latter very often tubular.

(5) Now if we take analogous examples of solid rods in man becoming occasionally tubular, we shall remember that the gill-clefts in man are represented in great part by solid bars of cells. No one will deny, however, that tubes, fistulæ and cysts have developed in connection with these bars—in other words, the solid rod for some reason has become tubular.

(6) The lacrymal duct, the vagina, the terminal part of the

urethra itself, are also examples of solid rods of cells becoming vesicular in later development.

(7) We may, perhaps, fairly conclude from these facts that there is in man a solid rod of cells stretching between the hind-gut and the umbilicus and which in part is allantois. In connection with the basal portion of the allantois the cloaca is developed, and I propose to call the whole structure "allantois cloaca."

(8) The suggestion may now be put forward that the tubular allantois cloaca becomes cleft, this cleft being dependent upon a grooved or gutter-like allantois—in other words, if we commence with a grooved or gutter-like allantois there will be a grooved cloaca. The reverse condition is much less likely to occur, the allantois being formed before the cloaca.

(9) A cleft allantois cloaca will lead to a bifid, or double, genital eminence being formed, if the cleft involves these regions, and I would suggest that in the present case the bilateral swellings on each side of the vagina and below the ureters form an example of a bifid, or double, genital eminence.

(10) Two marked examples of a double genital eminence are formed by the condition of epispadias, and the groove on the dorsum of the penis in these cases is, therefore, due to the formation of the body-cleft just as in those cases which have a true double genital eminence.

(11) That the cause of the cleft or grooved allantois, which involves, as it does, the anterior abdominal wall, will be associated later with failure of pubic union and separation of the lower parts of the recti muscles, I do not pretend to suggest; but it may perhaps be associated with the communication which appears to exist between the intestine, allantois and yolk-sac at an early period of embryonic life.

(12) This suggestion, involving changes occurring in a primary structure which lead to consequent changes in a secondary structure, is more logical than that changes in a secondary structure should lead to subsequent similar changes in a primary structure.

Three definite conclusions may be deduced from these remarks. They are :

1. Ectopia vesicæ is a body-cleft due to the formation of a groove in the allantois which secondarily affects the cloaca.

If this suggestion be accepted, it is easy for us to understand why rectum and vagina should be affected so rarely in a case of extroversion of the bladder.

2. Epispadias is not analogous to hypospadias, but is evidence of

a bifid, or double, genital eminence being formed from the cloaca which is cleft secondary to the allantois.

3. The cause of the deformity must be sought above rather than below.

3. Description of Operation for Relief of Condition.

Two operations were performed by me at the Victoria Hospital for Children. The first operation, which was in fact a complete failure, was performed in February, 1918. The second operation was performed in May, 1918. On both occasions Miss F. Dixon, my house-surgeon, rendered most valuable assistance, and Dr. Schofield gave the anæsthetic. The operation on each occasion lasted under half an hour—a point which should be remembered, as time is of great importance to young children or infants.

The operations differed in no respect from each other except in one particular of after-treatment.

The ectopial swelling was first reduced, and an incision was made all round the opening of the invaginated sac except below, where it was directed rather on the inner aspect of each portion of the genital eminence and passed into the subcutaneous fat. The edge of the mucous membrane of the bladder was then turned inwards and united by means of several catgut sutures: the inner edges of the incision in the genital eminence on each side were turned over and united across the middle line in the same plane as the suture line in the bladder.

The inner edge of the rectus muscle in the lower half of the abdomen was sought for, found, and sutured to its fellow of the opposite side.

Lembert's sutures were then placed in the subcutaneous tissue, drawn lightly and tied. There was thus formed a broad area of apposition.

The skin was then united in the usual way. A bladder and urethra were thus formed, and the urethra has its usual relation to the genital eminence, namely, below this.

At the second operation, after the dressing had been applied, a broad piece of strapping was used to help the sutures to keep the edges of the wound together. A catheter was introduced and fixed into the bladder.

The wound healed well. The catheter was removed at the end of the first week. The sutures were removed at the end of three weeks and the patient left the hospital in July, 1918.

I saw the patient about Christmas time, 1918, when there was a

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small opening discharging urine situated above the level of the pubes which showed no sign of yielding further, and in February Dr. Robertson, of the Bermondsey Infirmary, informed me that very little urine was coming away through this opening. The child appeared to have some control over micturition.

One very great advantage of operating upon these cases at a very early age is to be found in the fact that ectopial swellings diminish in relative if not actual size with advancing years. As the patients get older there is less to be operated upon.

Another advantage in early operation is the formation of a bladder of normal size and function in response to training.

NOTES ON A CASE OF CONGENITAL URETHROCELE.

By FREDERICK C. PYBUS, M.S., F.R.C.S.,

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THE details of this case of congenital urethrocele seem worthy of publication. The patient, a male child, aged 3 years, was admitted to the Hospital for Sick Children on February the 1st, 1917.

The history was as follows: The child had been born with an enlargement of the penis. There had been difficulty in micturition during the whole of life. There was no pain, but on micturition the penis became swollen and the urine dribbled away for some time afterwards. Latterly the urine became foul smelling. The general health had suffered considerably. On examination, the child appeared small for his age and had a mild degree of rickets.

The testicles and scrotum were normal. The penis was considerably enlarged, measuring $3\frac{1}{2}$ in. in length, and hung down well below the level of the scrotum.

The glans from the dorsal aspect appeared normal and was surrounded by a slight but definite fold representing the prepuce. The whole under-surface of the penis was enlarged and hung down, the dilatation extending from the meatus, which was of normal size, to the perinæum. During micturition the penis became ballooned; urine escaped at the time in a small stream but continued dribbling for some time after. The sac never quite emptied itself but could be emptied by manipulation. The urine was ammoniacal and contained pus.

The child was admitted to the hospital with a view to operation. In order to get the urine and urethra into better condition the meatus was laid open. While this allowed a better escape of urine no appreciable difference was noticed in the size of the dilated urethra. No other abnormality could be found and the kidneys were impalpable. Fig. 1 shows the condition of the penis and its general relation to the size of the scrotum. Fig. 2 shows a probe introduced into the meatus and pushed to the bottom of the sac, which is extended. During his stay in hospital the child had two febrile attacks suggestive of urinary infection.



FIG. 1.



FIG. 2.

Operation (March the 7th).—A catheter was passed into the bladder. There was no definite obstruction in the remainder of the urethra. The redundant portion of the urethra was removed and the remainder was sutured over the catheter in two layers.

Two days after the operation fever developed, the temperature reaching 101°F. The child became restless, acetone was present in the breath and urine, and in spite of measures to combat this the child died a week later. On post-mortem examination the liver was fatty and the mesenteric glands enlarged. The bladder was considerably hypertrophied. The ureters were markedly dilated and tortuous, measuring $\frac{1}{2}$ in. in diameter in some places.

The pelves were dilated but not in proportion to the ureters. The kidneys were not enlarged, but the cortex was thinned and pale and gave evidence of the effects of pressure. The pelvis on one side showed a definite inflammatory condition.

It seems certain that the dilatation of the urethra was congenital, but there may be some doubt whether a similar condition existed in the ureters. It seems equally possible that this latter dilatation was consequent to the bladder hypertrophy.

A NEW CASE OF LIPODYSTROPHIA PROGRESSIVA.*

By F. PARKES WEBER, M.D., F.R.C.P., and T. H. GUNewardENE,
M.R.C.S.

THE patient, E. W—, a girl, aged $12\frac{1}{2}$ years, has been since the age of $7\frac{1}{2}$ years progressively losing the subcutaneous fat over her



FIG. 1.

face, neck, upper extremities and trunk as far down as the pelvis. She has now an extremely emaciated appearance over these parts, but the buttocks and lower extremities are fairly plump (certainly not thin). Beyond her wasted appearance she has nothing to complain of, excepting an occasional catarrhal condition of her nose and pharynx. On the whole she has been gaining in weight since she has been under observation during recent years; this gain in weight is doubtless due chiefly to growth in length of the body. There is no evidence of any disease of the thoracic or abdominal viscera, and the urine is free from albumin and sugar.

At $7\frac{1}{2}$ years of age she was rather full in the face, as a photograph of about that period shows. Then she suffered from measles, whooping-cough and pneumonia close together, and the wasting of

* The case was shown at a meeting of the Section for the Study of Disease in Children of the Royal Society of Medicine on January the 24th, 1919.

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the subcutaneous fat commenced gradually after that. Fig. 1 shows the patient at the age of about $7\frac{1}{2}$ years. Figs. 2 to 4 show her at the age of $12\frac{1}{2}$ years with all the appearances of lipodystrophia progressiva.



FIG. 2.

The case is a typical one of "lipodystrophia progressiva," notably in regard to the distribution of the fat atrophy, the patient's sex, and the patient's age when the change in her appearance was first noticed.* The diagnosis was made by Mr. T. H. Gunewardene, who saw her at the East London Hospital for Children.

* Cf. F. Parkes Weber, "Lipodystrophia Progressiva." London: Adlard & Son & West Newman, Ltd., 1918.

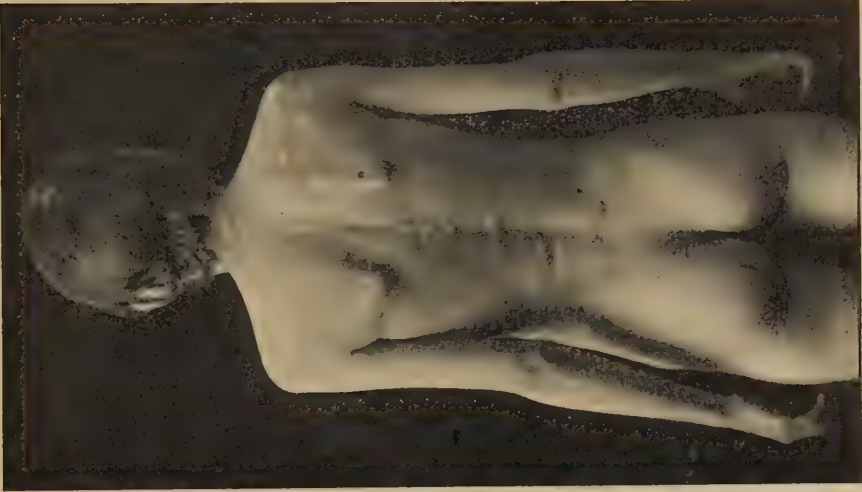


FIG. 4.



FIG. 3.

CLINICAL NOTES OF A CASE OF MYASTHENIA GRAVIS.

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Consulting Physician to the Royal Edinburgh Hospital for Sick Children.

CASES of myasthenia gravis are so very rare in childhood that the following notes, although incomplete, are perhaps worth placing on record.

The child—a patient of Dr. Lumsden, of Denny—was an intelligent girl, aged $11\frac{1}{2}$ years, who had always been regarded as healthy. She had had no previous illnesses except measles, whooping-cough and scarlet fever in early childhood, but an ear-discharge, which had begun during the scarlet fever seven and a-half years before, was still going on.

The first symptoms complained of were a feeling of extreme tiredness on walking and inability to go upstairs. These had begun four months before I saw her and had been attributed to rheumatism, although they were not accompanied by pain. Soon after it had been noticed that towards afternoon her face lost its expression and the eyelids drooped, also that her mouth opened during sleep owing to falling down of the lower lip. The neck muscles were early affected, and they had become so weak that the child had been obliged to give up doing anything that required her to hold her head forward. Lordosis had also developed and the other muscles of the body also showed weakness, though no wasting of any of them was apparent. When walking, the child often fell down “because she felt quite done.” Her hands and forearms remained relatively strong for some time, and, when I examined her, she could lift a tumbler of water to her lips quite steadily, but she could only raise her arms above her head with difficulty by swinging them up, and could not keep them there for more than a few seconds. Similarly, she could not place her foot on a chair except by swinging the limb up from the hip, and when the foot rested on the chair she could not move it at all. When laid on the floor the child had great difficulty in rising, and her attempts to do so resembled those of a patient with pseudo-hypertrophic paralysis. The knee-jerks and other reflexes were present, the muscular sense and power of co-ordination were unaffected, and no fibrillary twitching was seen. There was no affection of sensation.

The speech was scanty, indistinct and lisping, but not nasal, and speaking seemed to tire the child very much. The tongue, however,

appeared to move normally, and mastication and deglutition were not appreciably interfered with. The ptosis, which has been already referred to, was very considerable, so that when I saw her (in the early afternoon after a train journey) the eyes could not be opened more than half the usual extent. The other ocular muscles were feeble, and slight nystagmoid movements occurred when the eyes were turned to one side or the other. The pupils were equal and of medium size; they reacted sluggishly to light and to accommodation. The heart, lungs, abdomen and urine showed no abnormality.

One of the most striking features of this disease is the great variation at different times in the degree of the debility. Until a late stage in the case the child was comparatively bright in the mornings; she got out of bed without any help, and, when up, held herself erect and walked pretty well, and her face looked fairly normal. As the day went on, however, the eyelids drooped more and more, the face lost all expression, and the child walked and did everything else with increasing difficulty. Before evening she was so exhausted and limp that she had to be lifted into bed.

No form of treatment that was tried had any noticeable effect on the symptoms. The patient got slowly weaker and died five and a-half months after I saw her. Three weeks before the end the process of eating tired her so much that she had to stop her meals long before she was satisfied. During the last week of life her respiration became distressingly difficult. No post-mortem examination was allowed.

EXPERIENCES AT A RINGWORM CLINIC.

By HALDIN DAVIS, M.B.Oxon., F.R.C.S.,
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THE Willesden Ringworm Clinic was opened in the spring of 1913 by the present writer, who was allowed to choose his own apparatus.

The clinic began in a modest way: it was housed on the first floor of a house in the High Road, Kilburn, over a tailor's shop, and has been there ever since. The Willesden Council provided £250 for the preparation of the premises and the necessary equipment. This sum proved more than sufficient, for the amount actually spent before the clinic opened was well under two hundred pounds. The expenses of upkeep have also been light, for during the six years that the clinic has now been open only about forty pounds have been spent on apparatus. Practically the entire expense of upkeep con-

sists in the salaries of the staff. Moreover, a ringworm clinic very nearly pays for itself. Owing to the speed with which the cases can be cured by X-rays, the cost of treatment is nearly defrayed by the additional grant earned from the Board of Education and by the saving of school time which would have been lost under the older slower methods of treatment.

The apparatus consists of a twelve-inch coil working from a main, giving a direct current of 240 volts through a series resistance, which can, of course, be altered as required; and the current is broken by means of a mercury jet-break, with a mechanical device for cutting out the reverse current.

For the first four years of the clinic's existence the X-ray tubes used were two Siemen's tungsten target tubes, which each yielded more than one thousand pastille doses without showing appreciable signs of wear, but which finally perished through no fault of their own, but through one of those accidents to which frail glass structures are always liable. Since then I have used Pilon tubes, which seem to be going to be equally satisfactory. The original tubes being only of a diameter of about three and a quarter inches went very well in an Adamson's box, a wooden structure lined with leaded rubber; but the Pilon tubes are too big for this box, and therefore a new tube-holder of glass, and at the same time a more elaborate stand, have been installed. The modern stands are a great improvement on the old-fashioned, as they are worked by turning a cog-wheel on a rack; the older ones had to be lifted bodily up and down, a very laborious proceeding, as a tube-holder weighs several pounds.

It should not be necessary here to explain the principles of the treatment. It is well known that the hair falls after the scalp has been exposed to a certain dose of X-rays, which is measured by the changing of colour of a Sabouraud pastille from green to a light orange. The pastilles, which are coated with barium platino-cyanide, are sold in morocco-covered books, which always contain sample tints with which to match the pastille being used and thus measure the dose. For some years, however, I have been using an instrument known as Corbett's radiometer. This instrument, I find, gives me a much more accurate match than by the use I can get with the sample tint as supplied in the book of pastilles. It would take too long to describe the instrument here, but it will suffice to say that the match is made by transmitted instead of reflected light.

In the great majority of cases of ringworm of the scalp epilation of the whole head is necessary. Occasionally where the disease is limited to a small area it is sufficient to treat that alone, but it so

often happens that if that is done, during the time that elapses between the exposure and epilation, the disease spreads to other parts of the scalp and ultimately the rest of the head has to be done after all. When the whole head is to be exposed to the rays the treatment can be completed in five doses directed as follows: (1) To the area just above the forehead; (2) to the vertex; (3) to the left side of the head, centred just above the ear; (4) to the corresponding point on the right side; (5) to the occiput. The points upon which the rays are centred are arranged so as to be as nearly as possible five inches away from each other. If that is so and the target of the X-ray tube is six and a-half inches away from the scalp the whole head is evenly irradiated. Those portions of the scalp which are intermediate between two centres of radiation receive such a proportion from each that in all they receive a single full dose. If the target of the X-ray tube be more than six and a-half inches away the intermediate portions receive more than the points upon which the rays are focussed, and if these points receive an adequate dose the areas where the doses overlap should receive more than that, and thus theoretically there is danger of an overdose and consequent disaster. As a matter of fact, however, I am now using a tube in which the target has to be eight and a-half inches away from the scalp, but no harm results. This is because the margin of error is, fortunately, very large. I used to think that it was only about 10 per cent., but I am sure now that I was wrong. If an exposure be given just enough to make the hair fall and only just, down is found on the scalp after all the strong hair has fallen. If a larger dose be given epilation is absolutely complete, and if a still larger dose be given the scalp is shiny after epilation. Danger only begins when the scalp is erythematous, and even then the hair will grow again as a rule. Between the minimal dose required to produce epilation and the amount required to produce permanent alopecia there is a very large margin of error. In fact I think that if a tube working under certain conditions will just produce epilation in five minutes it will fail to produce permanent alopecia in ten minutes. I would not recommend anyone to try this, but I know of an instance in which a certain doctor inadvertently X-rayed the same area of scalp twice, and although the hair took some considerable time to reappear ultimately it did do so and no harm was done. It is always wise to use the minimum dose that is sufficient to cause adequate epilation, not only for fear of making this error, but because the hair returns so much more quickly than when a full dose is given, so that the period of unsightliness is made as short as possible. A pleasing

feature of the X-ray treatment of ringworm is that, as a rule, the new hair which grows is curly, even in children who previously have had straight hair.

What are the chief pit-falls in treating ringworm with X-rays?

- (1) X-raying the same area twice ;
- (2) giving too large a dose ;
- (3) not giving a large enough dose.

In order to prevent the same area being X-rayed twice it is important to reduce one's procedure to a routine—in other words, to have a sort of drill. It is my invariable custom always to expose the five areas in the same order, viz., the forehead, the vertex, the left side, the right side, and the occiput. After each successive dose is given the number of minutes taken to turn the pastille is entered up on the child's treatment card and the pastille itself is put aside ; thus there are two checks, first the number of pastilles used indicates the number of doses given, and hence it is obvious which is the next area to be treated, secondly the position of the patient, which has to be changed after each exposure, also indicates into which position it has next to be placed.

To guard against the second error of giving an excessive dose there is the primary duty of watching the pastille, but there is a certain risk, especially in a clinic where one has to examine other patients while the X-ray machine is working, that, absent-mindedly, one may forget to look at the pastille until too late. To obviate this there is a clock which is set for a certain time. When this time has elapsed it rings a bell quite loudly enough to attract the attention of anyone, however absorbed for the moment he may be in another pursuit.

As to giving an inadequate dose, this is, of course, annoying, but does no harm, except that it means that the dose must be repeated later. It is necessary, to be on the same side, to wait four clear weeks before again exposing the insufficiently treated area. An experienced operator seldom has to do this. It may be of some interest to give the figures up to date of the Willesden clinic :

Number of cases submitted to X-rays, 441.

Number of cases which have had to be X-rayed twice, 44.*

There have been no cases either of X-ray burn or permanent alopecia. These figures extend for a period of nearly six years, working one half day per week, but owing to circumstances connected with the war a few weeks have been lost from time to time, and the clinic has always closed during the school holidays.

* This figure is larger than it otherwise would be because for several months, at the end of 1914, the clinic was under the charge of an ultra-cautious operator, who alone provided about 29 cases which had to be X-rayed a second time.

RETROSPECT OF OTOTOLOGY, 1918.

By MACLEOD YEARSLEY, F.R.C.S.

THE literature of pædiatric otology has not been swelled by any very startling contributions. Probably the most interesting to the specialist and the general practitioner is the short article on "A Device for Prevention and Treatment of Adenoids," by Isabel Ormiston, M.B., which appeared in the 'Lancet' (1918, ii, p. 240). The author is one who at first openly scoffed, but was converted by results. The device is that suggested in 1914 by a Mrs. Handcock, and consists in the production of sneezing by lightly touching the nasal septum near the tip of the nose with a slightly irritant adhesive powder, made from powdered iris root and soap. The sneezing caused thereby expels muco-pus from the nose and "the adjacent sinuses" (*query*, M. Y.). Stimulation is repeated until a "dry" sneeze results. It is claimed that the accompanying free flow of lymph acts as a wash-out and as a natural protective fluid against bacterial invasion.

Children who are old enough to blow their noses are then taught a handkerchief drill. They stand in line, holding the bridge of the nose to prevent pinching the nostrils.

Dr. Ormiston finds results "most gratifying" after four years' trial of the treatment. The first marked improvement she found to be in the digestive system. She refers this for explanation to the "student of reflex action," but the probability is that the muco-pus she describes as expelled by the sneezing used formerly to be swallowed and so set up gastric irritation. The younger the child, the quicker the shrinking of the growth; in older children massage of the head and neck is necessary to stimulate the lymphatic circulation.

One of the chief advantages appears to be that large numbers of school children can be treated simultaneously at little cost, and that school nurses could be trained quickly to carry out the treatment under proper supervision.

From this paper it is evident that this new method of treating adenoids should be carefully and minutely tested and investigated, and, if found to be of undoubted value, be established as such by an unimpeachable verdict. At present it is possible that much harm, both by commission and omission, might result.

A curious and interesting case of migration of a round-worm into the ear has been recorded by Coussien in the 'Revue de Laryngologie, etc.,' during 1918 (quoted by 'The Lancet,' 1919, i, p. 28). The patient

was a girl, aged 4 years. When seen, she had been suffering from pain in the right ear for eight hours, of paroxysmal character and not amenable to remedies. There was no fever and no mastoid pain. The tympanic membrane was red and bulging in the posterior half; nasal and pharyngeal examination was negative. Instillations of carbolised glycerine were prescribed, with hot compresses. Twenty-four hours later, there being no relief and the membrane being redder and more bulging, paracentesis under local anæsthesia was performed. There was no pus and pain grew worse. At night there was an attack of syncope, with crises of nystagmus and general convulsions. The meatus was found to be blocked by a vermicular body, which was seized with forceps and removed. It proved to be a living male ascaris, 15 cm. long. The child slept most of the day, the tympanic incision healed and recovery was complete. There was no history of passing worms.

In a useful paper on "The Complications of Scarlatina" ('Dublin Journ. Med. Sci.,' 1918, i, p. 12), W. S. Boyd alludes thus to throat, nose and ear complications: (1) They should be isolated from simple cases as soon as the complications appear, and precautions should be taken to prevent discharges being conveyed from one patient to another. (2) Such patients should not be discharged without a thorough examination. (3) Special instructions should be given to parents as to the care of the child and to watch for nose and ear discharges.

Fleischmann ('Munch. med. Woch.,' 1918, lxy, p. 186) describes a case of oto-typhoid in a boy, aged 11 years. Ill of a sore throat with fever, he developed right otitis media at the same time, with mastoid abscess. Operation resulted in rapid recovery. The mastoid pus showed typhoid bacilli with a much smaller growth of *Streptococcus brevis*. There were no other signs of typhoid present. The stools were normal, containing no typhoid bacilli, but Widal reaction was positive—1 : 160. This is worthy of note here as a unique case in otological literature.

Among various papers upon middle-ear suppuration one calls for special note. This is "The Surgical Treatment and Cure of Suppurative Otitis Media Chronica in Childhood," by J. B. Horgan (BRITISH JOURNAL OF CHILDREN'S DISEASES, 1918, xv, p. 31). The opinion is expressed that, at least in the case of children, the radical mastoid operation is too often performed with undue celerity and before other and simpler surgical procedures have been given a legitimate trial. It is further pointed out that there is a great lack of routine aural examination and treatment of children *before* they

are discharged from fever hospitals. With both these opinions the reviewer, from over ten years' experience as a school specialist, is in hearty accord. The prevention of deafness in these cases stares every practitioner in the face—but still nothing is done. It is, however, to be hoped that the materialisation of a Ministry of Health will organise means to make the treatment of ear disease in children so efficient as to lead to this desirable end, by no means so Utopian (to quote Dr. Kerr Love) as some sceptics appear to consider.

Royal Society of Medicine.

SECTION OF SURGERY.

May the 7th, 1919.

Carcinoma of the Appendix.—Mr. J. E. ADAMS.—The patient was a girl, aged 12 years, rather thin and nervous, with a history of bilious attacks for some years. The present illness began in November, 1918, and the diagnosis made was appendicitis, owing to the location of the pain and tenderness in the right iliac fossa. Abdominal pain on previous occasions had not been referred to in this region, and the child herself stated that the pain was in a new place. The pain persisted in slight degree up to the date of operation in January, 1919, when it was expected that an adherent appendix would be found. The appendix, however, proved to be quite free from adhesions, but enlarged and bulbous in its distal portion for three-quarters of an inch. The proximal part was empty and healthy. Macroscopically, the growth was spheroidal-celled carcinoma, with extreme invasion of the muscular coat, and no clear evidence that it had originated in the mucosa. Appendicectomy alone was performed at the operation, and in view of the generally favourable outlook in these cases no further surgical treatment was advised. The child was now perfectly well. Mr. Adams stated that numerous cases of carcinoma of the appendix had been recorded before puberty. Practically all the appendices were removed for attacks diagnosed as appendicitis, and the discovery of carcinoma was made by microscopical examination. The majority belonged to the spheroidal- or basal-celled type of carcinoma. The majority of the cases were cured by appendicectomy alone. Spheroidal-celled carcinoma of the appendix in young subjects was characterised by slow growth, absence of early metastases and rarity of recurrence after removal. Battle, in 1904, recorded a case in a girl, aged 14 years, whose appendix was removed after six attacks occurring at short intervals. No suspicion was entertained before operation that the condition was other than chronic inflammation of the appendix, but when removed it was thought to be tuberculous. There was a bulbous tip, solid with growth, and a stricture in the lumen of the appendix in its proximal half. Section of the appendix conformed to the spheroidal-celled type and the growth showed an extreme degree of invasion of the muscular coat.

Fourteen years after the operation the patient wrote that she was married and in perfect health, and had a child, aged 5 years.

In 1905 Sargent found an enlarged and caseous appendix with an abscess due to what was considered to be the first attack of appendicitis; a preliminary diagnosis of tubercle was made, but microscopical examination revealed the structure of an endothelioma. The patient was a girl, aged 12 years, who had been ill nearly three weeks with acute symptoms for nearly fifty-six hours before operation. There was a large inflammatory swelling in the right iliac fossa and the case was treated by incision and drainage, with immediate appendicectomy. Only the unusual appearance of the appendix caused a microscopical investigation to be made and the child made a perfect recovery. The subsequent history of the case could not be obtained.

Malformation of the Liver.—Mr. J. E. ADAMS.—The patient was a boy, aged 6 years, who had been brought to hospital for looseness of the bowels, poor appetite, and occasional severe abdominal pain. He was small for his age. The abdomen was soft and there was an elongated tumour in the right mammary line extending to the level of the umbilicus and about 3 in. wide. The tumour was smooth, firm, not tender, and was fairly mobile in all directions. Its lower, inner, and outer borders were defined, but its upper limit could not be made out. A hand could be passed under the tumour. The lower border of the liver was not palpable. A skiagram failed to help in the diagnosis. Nothing else abnormal could be made out. At a laparotomy the tumour proved to be the liver, which was entirely to the right of the middle line, the left lobe being absent. The stomach was above the level of the liver, which was rotated so that the gall-bladder lay on its superior surface, and the foramen of Winslow was entered by passing over the upper surface of the liver and to the left.

SECTION OF DERMATOLOGY.

November the 21st, 1918.

Case of Actinomycosis.—Dr. E. G. GRAHAM LITTLE.—The patient was a child aged 12 years, of well-to-do parents, who lived in a house surrounded by fields in which cattle grazed. The clinical features were very characteristic of actinomycosis. The history was that a swelling was first noted about eight weeks ago on the outside of the right cheek, near the angle of the jaw. There was no abrasion inside the mouth. The swelling was practically painless, but the induration was very marked, and when the case was seen about two weeks ago the whole cheek was hard, swollen, and of a dusky red colour, with some characteristic red puckerings of the surface in the site of the nodular swellings about the middle of the cheek. Characteristic mycelial threads were found in tissue removed by operation from the nodular swelling, but attempts to cultivate the organism failed. No other cases had occurred in the neighbourhood, nor had the child's play-mates shown signs of infection. Considerable progress had taken place under treatment with iodide of potassium.

Case of Extensive Pigmented Nævi.—Dr. E. G. GRAHAM LITTLE.—The patient was a female child, aged 3 months. She was born with pig-

mented nævi, which were most unusually extensive and deeply brown, almost black. The largest area was over the sacrum, where a patch some 6 in. by 3 in. occupied the lower part of the back. There were very numerous smaller but similar patches on the face and limbs. A peculiar feature was the complete absence of any development of hair on the pigmented areas; the somewhat pad-like feel of the deepest coloured patches had suggested the possibility of malignant change. Dr. Little did not think there was any evidence of this himself, and had advised that no treatment should be given.

January the 16th, 1919.

White-spot Disease (*Morphœa guttata*).—Dr. J. L. BUNCH showed a girl, aged 9 years, who had developed during the past two years several skin-patches of an ivory-white colour which were distinctly sclerodermatous. The largest patch was situated over the front of the left tibia, was oval in shape, and measured 3 in. in its largest diameter. It was quite hard to the touch, and there was considerable thickening of the skin. In one place it had not recovered from the effects of a kick some three months ago, which caused superficial ulceration at the time and now redness; otherwise the patch was ivory-white and quite smooth. Behind the right calf was a smaller white patch, also sclerodermatous, about the size of a shilling, and above the left ankle one the size of a shilling. On the abdomen was a similar patch about the size of a pea, and below the scapulæ three more of about the same size, with intervening areas of healthy skin. All the patches were quite white, shiny, and had all the characters of morphœa. Above the left knee were several very small, punctate white spots which did not feel sclerodermatous, and it seemed possible that these spots would coalesce later and form an indurated patch like the one over the tibia. There were well-marked patches of erythema on the back and chest, and the child was said to develop such patches frequently, but they soon passed away. During the last two years the child had had experience of several air raids and had become emotional and excitable, and the mother ascribed the skin condition to her nervous state.

Medical Society of London.

April 14th, 1919.

Cœliac Disease.—Dr. EDMUND CAUTLEY showed a case in a boy, aged $3\frac{1}{2}$ years, one of eight children, of which three were dead. The boy was admitted into the Metropolitan Hospital six months previously with a history of passing three or four loose, offensive stools daily for a period of two years and progressive abdominal distension. Two years before admission he had measles, followed by pertussis four months later. He was in an infirmary for a year, up to September, 1918.

On admission he was small, very emaciated and marasmic, weighing only 21 lb. 4 oz. The appetite was good, the abdomen large and tympanitic, and the stools loose, clay-coloured and offensive. For the last six months

he had continued more or less in the same condition, though slowly improving and gaining weight—in all about 4 lb. Sometimes he would gain weight rapidly, and then, for no apparent cause, lose weight with almost equal rapidity. At intervals he would “go off his feet.” The stools lost their offensive odour at times, occasionally presented a little colour, and had frequently become of the consistency and appearance of porridge.

Report on urine and fæces by Mr. R. L. Mackenzie Wallis, April the 11th: *Urine* clear, pale yellow colour; free from sugar; diastase 32 units (normal number of units 10·0–22·2; in pancreatic insufficiency, over 100 units). *Fæces*: Greyish and pasty, with slight rancid odour and strongly offensive; containing a small amount of mucus, no urobilin, no bile-pigments, and no blood (benzidine test). *Microscopically*, several refractile fat-globules seen; abundant crystalline needles of fatty acid; no muscles, fibres, or starch-granules; several undegenerated epithelial cells and a few large spiral vessels of vegetable fibres; many broken-up triple phosphate crystals. *Percentage analysis*: Total solids 21·3; water 78·7; inorganic acid 20·2 per cent. of dried weight of fæces; total fat 44·4; neutral fat 26·24; fatty acids and soaps 18·6 per cent. *Conclusions*: The diastasic activity is only slightly above the normal, and thus gives no indication of any marked pancreatic insufficiency. The high figure for inorganic ash points to intestinal disturbances, as also the acid content, the high values for total fat, and the relative ratio of unsplit to split fat. The results coincide in almost every particular with those found in cases of “celiac disease.” The absence of urobilin is also a striking point.

Pancreatic extract had been given without benefit, and various modifications of diet tried with no marked improvement.

Additional note, May the 28th: A fat-free diet has not produced any improvement, and there has been no change in the general condition beyond further improvement in nutrition. The boy still passes three or four loose, offensive stools daily, and his abdomen remains large and tympanitic. The *blood* has been carefully examined by Dr. Andrews, Pathologist to the Hospital, and by Dr. Gordon Ward, with the following results: *Red cells*, 4,580,000; megalocytes (9 mm. and over), 12 per cent.; microcytes (5–6 mm.), 15 per cent.; poikilocytes, about 1 per cent.; average size, 7·41 mm.; no stippling; very little polychromasia. *Hæmoglobin*, 62 per cent. *Colour index*, 0·68. Increased platelets. Anisocytosis, 5–9 mm. Achromasia very evident. *White blood-corpuscles*, 9200; percentage differential count showing polymorphs 51·0, eosinophils 2·2, mast-cells 0·8, transitionals 8·6, small mononuclears 36·2, large mononuclears 1·2; myelocytes absent. Dr. Gordon Ward remarks that the count is distinctly abnormal, but, except for the colour index, the abnormalities are not well marked. The colour index is often low in children owing to poverty in iron, and may persist in or complicate all sorts of conditions. The average size of the red cells is within the normal limits, and the extremes of size are such as are met with in many mild anæmias. They show a moderate reaction on the part of the marrow. There is no evidence of hæmolytic anæmia or reaction. The white cells are slightly but distinctly increased, the relative proportions being within the normal limits of childhood. This blood would do well for a case of chlorosis in an adult or for an iron starvation anæmia in infancy. There is nothing else pathognomonic about it.

These cases are more common in private than in hospital practice, in girls more often than in boys, and usually begin under two years of age. The main characteristics are the stools, large abdomen, wasted limbs and

emaciation, though the face remains full, secondary anæmia and backward physical development. Gee first described it, Cheadle called it "acholia," and Herter gave it the name of "intestinal infantilism," and ascribed it to bacillary infection, but his views have not been confirmed. On the whole the defect seems in some way associated with the biliary functions. Drugs have little effect, and a diet devoid of fat appears to afford the best hope of recovery, though in the present instance it does not seem very efficacious. As a general rule the prognosis is fairly hopeful.

Abstracts from Current Literature.

Acute Infectious Diseases.

Epidemic influenza in infants ('*Amer. Journ. Dis. Child.*,' 1918, xvii, p. 165).—**M. Wollstein** and **A. Goldbloom**.—From October 1 to November 15, 1918, 36 cases of broncho-pneumonia and influenza were admitted to the Babies' Hospital, New York: 12 recovered and 24 died, a mortality of 66·6 per cent. Of the 24 fatal cases 18 came to autopsy and formed the basis of the writers' paper. The patients' ages ranged from five weeks to twenty-one months: 4 were less than six months, 9 were under one year, and 9 were between one and two years. Eleven were males and 7 females. Cultures were made from the sputum in 17 cases. *B. influenzae* was present 13 times—in overwhelming numbers once, very numerous in 11, few in 1. The other bacteria present were pneumococci, staphylococci, *Micrococcus catarrhalis* and streptococci in order of frequency. Only Type IV pneumococcus was found. Post mortem *B. influenzae* was cultivated from both lungs in all cases in large numbers, but never in pure culture. It was found once in the heart's blood and once in the pus from an empyema. The lungs showed a variety of lesions, such as congestion, oedema, general bronchitis, scattered areas of consolidation differing in age, but involving two or more lobes, subpleural hæmorrhages and pleural exudate. Capillary hæmorrhages in the other viscera were constant. This series of pneumonias was far more severe, more extensive and more highly fatal than any other group of pneumonia cases observed in the hospital over a similar period of time.

J. D. ROLLESTON.

Influenza in children ('*Wien. med. Woch.*,' 1918, lxxviii, p. 1979).—**W. Knöpfelmacher** states that young children are much less affected than older ones. In the infants' department of the Caroline Children's Hospital in Vienna, which contains twenty infants, only four were attacked in the course of a month, whereas one-third of the children admitted to the two medical wards contracted the disease. The mortality among older children was much higher than among the younger. Influenza did not appear to have any influence on latent tuberculosis, and von Pirquet's reaction was as well marked after an attack as before.

J. D. ROLLESTON.

Influenza among children as seen in a hospital ward ('*Boston Med. and Surg. Journ.*,' 1918, clxxix, p. 779).—**F. B. Talbot** studied 31 cases, 10 of which were under 2 years of age, 10 were in the second and third

year, and the rest ranged up to 12 years. None were breast-fed except an infant 11 days old. The majority of the cases had been ill from four days to a week before admission, and with few exceptions represented the worst type of the disease. Thirteen, or 42 per cent., died. Contrary to the experience in adults there was no clinical evidence of sinus infection, and otitis media was present in only 4 cases. Broncho-pneumonia was present in all cases but one. Two of the cases had empyema; one was operated on successfully and the other died. The white-cell count was low in the majority of cases irrespective of prognosis and complications. The differential count showed a polymorphonuclear leucocytosis in all cases but one.

J. D. ROLLESTON.

Influenza among children as seen in private practice (*Boston Med. and Surg. Journ.*, 1918, CLXXIX, p. 783).—A. A. Howard studied seventy cases and arrived at the following conclusions: The symptoms and physical signs were on the average much less severe and the mortality lower than in hospital practice. Only one of the cases proved fatal. The most constant symptoms were cough, headaches, and a mild acidosis, and the most constant physical signs high temperature, injected eyes, inflamed mucous membranes of the upper respiratory tract, bronchitis and broncho-pneumonia. Only two cases developed any ear complications. They were both simple otitis media and very mild in character. No evidence of mastoid or sinus involvement was found in any case. Inspection was more valuable than any other method of physical examination in determining the diagnosis and prognosis. Children with pertussis or recently recovered therefrom seemed specially vulnerable, had a more severe attack, and a slower convalescence.

J. D. ROLLESTON.

Influenza in a newly-born infant (*Journ. Amer. Med. Assoc.*, 1919, LXXII, p. 980).—I. A. Abt.—A primipara, aged 26 years, developed symptoms of influenza within two weeks of term and gave birth to a child the following day. At birth the infant presented symptoms of respiratory infection which grew rapidly worse and led to death on the third day. The necropsy showed a generalised infection with minute hæmorrhages in the pericardium, septic endocarditis and hæmorrhagic bronchopneumonia; streptococci were obtained in abundance from the lung, kidneys and spleen.

J. D. ROLLESTON.

Two cases of influenzal albuminuria in the child (*Rev. Méd. Suisse Rom.*, 1918, XXXVIII, p. 647).—A. D'Espine.—Renal complications are not frequent in influenza. Leichtenstern in his monograph on influenza in 1896 states that acute nephritis occurred in barely 1–2 per cent. of the cases during the pandemic of 1889–1894. The frequency of febrile albuminuria varies considerably. Teissier has found it in about half the cases, whereas Anton, Krehl and Leichtenstern found it in 3–5 per cent. at most. Apart from cases in which only traces of albumin were found in the urine, albuminuria was rare among the cases of influenza treated at the Children's Clinic at Geneva, only five examples being met with among 206 cases admitted. In one the albumin amounted to 11 per 1000, in one to 3 per 1000, in one to 0.50 per 1000, and in two to 0.25 per 1000. In the, first two cases influenza was also complicated by pneumonia.

J. D. ROLLESTON.

The nervous complications of influenza in children (*Arch. de Méd. des Enf.*, 1919, xxii, p. 1).—**D'Espine** records four cases of influenza in children with nervous complications, two of which belonged to the meningeal form and recovered, and two to the eclamptic form and ended fatally. The first case, which occurred in a boy, aged 6 years, was one of meningism. The cerebro-spinal fluid was clear and showed no leucocytosis, but a slight increase of albumin. The second case was one of meningo-encephalitis, as was shown by the cerebro-spinal polymorphonuclear leucocytosis and the presence of two symptoms resembling lethargic encephalitis, viz. somnolence and paresis of the nerves of the mesencephalon. The eclamptic cases were characterised by generalised convulsions alternating with periods of somnolence and coma, death occurring within 24 hours. The cerebro-spinal fluid was normal, and the changes in the brain were not those of encephalitis but were such as are found in intoxications. **J. D. ROLLESTON.**

Influenza and diphtheria (*Lancet*, 1919, i, p. 563).—**E. A. Constable** points out that diphtheria is one of the occasional sequelæ of influenza. The nasal pallor of diphtheria is in marked contrast to the flushed facies of the initial influenza. She reports several cases in children. Diagnosis was confirmed in every case by bacteriological examination. All cases recovered from their double dose of toxin. **J. ALLAN.**

A study in diphtheria mortality, with comments on treatment (*Arch. of Ped.*, 1918, xxx, p. 513).—**A. L. Hayne**.—During the quinquennium 1912–1916 inclusive 6817 patients were admitted to the Municipal Contagious Diseases Hospital in Chicago. Among this number there were 834 deaths—a mortality of approximately 12 per cent. The number of patients under treatment in 1916 was about 200 greater than in 1912, which indicates a marked increase in the prevalence of diphtheria in Chicago at that time. An extremely small number occurred in the coloured race, the negro being relatively immune to diphtheria as he is to poliomyelitis. The purely pharyngeal and the combined pharyngeal and nasal cases constituted nearly 60 per cent. of the total deaths. Broncho-pneumonia was responsible for 137 deaths and heart failure (usually myocarditis) for 78. The following dosage was used: (1) Purely tonsillar cases from 5000 to 10,000 units; (2) laryngeal, 10,000 to 15,000 units; (3) nasal or naso-pharyngeal, 20,000 to 50,000 units. The injections were given usually by the intra-muscular route. **J. D. ROLLESTON.**

Chronic diphtheria (*Brit. Med. Journ.*, 1918, ii, p. 315).—**W. A. Norman-Robinson** reports a case in a boy, aged 7 years, who came under observation on account of a nasal discharge of twelve months' duration, attended by repeated attacks of sore-throat, earache, cervical adenitis, general malaise and drowsiness. A throat-swab was positive for diphtheria. The author remarks that this looks like a case of a carrier in whom, for over a year, there have been repeated mild attacks of diphtheria of such frequency as almost to constitute a *chronic* condition of the disease. **J. ALLAN.**

Post-diphtheritic paralysis and the spinal fluid findings (*Arch. of Ped.*, 1918, xxxv, p. 641).—**J. C. Regan**.—In six cases of post-diphtheritic paralysis the fluid was normal in all instances except in one patient, where the albumin and globulin content was slightly increased. In no instance was there any increase in cells, the cell-count never exceeding a

total of 7 per c.mm. Lymphocytes were always the predominating type of cell, and in all but one case were the only type present. Reduction of Fehling's solution was normal in all six cases. Macroscopically the fluids were clear and transparent. In most cases there was slight hypertension.

J. D. ROLLESTON.

Synkinesis in post-diphtheritic paralysis (*Riv. di Clin. Pediat.*, 1918, xvi, p. 505).—**P. Busacchi** describes a case where movements of the hands accompanied those of the facial muscles in speaking. His observations on such cases lead him to conclude that in post-diphtheritic paralysis of the muscles concerned in word-formation, synkineses of pathological origin are often observed, which show themselves in a peculiar behaviour of facial grimace when an attempt is made to pronounce words or even to utter simple vocal sounds. They are due in all probability to the diminution of inhibitory power by which, on a basis of physiological synergy, impulses independent of the will are aroused at the same time as voluntary impulses. To the production of these associated movements the varying conditions of nerves which have been subjected to the diphtheritic toxin also contribute, some being in a condition of paralysis, while others transmit impulses more readily than normally.

VINCENT DICKINSON.

Active immunisation of infants against diphtheria (*Amer. Journ. Dis. Child.*, 1918, xvi, p. 83).—**A. Zingher** furnishes statistics to prove—(1) That the morbidity and mortality from diphtheria are quite high and constant, showing that (a) in spite of the extensive use of small prophylactic doses of antitoxin the total number of cases of diphtheria has not been reduced to any extent; (b) the isolation and treatment of diphtheria carriers are of little benefit in accomplishing results on a large scale. (2) That children from 1–5 years of age are most susceptible to the disease and show by far the highest mortality. (3) That the mortality from diphtheria is nearly as great as that of measles and scarlet fever combined. (4) That the yearly mortality from diphtheria in the United States is about 23,540 and the morbidity is approximately ten times higher. Zingher maintains that all infants below 12 and, if possible, below 18 months of age should be actively immunised with three doses, each 1 c.c., of toxin-antitoxin, irrespective of the Schick test they may show at the time of immunisation. The injections are given subcutaneously and repeated every seven days. All infants over 18 months of age, as well as all youths and adults, should be tested with the Schick reaction first, and only those giving a positive reaction immunised with toxin-antitoxin. Three injections, each 1 c.c., are given subcutaneously one week apart.

J. D. ROLLESTON.

The results of the Schick test for diphtheria susceptibility in 500 selected cases (*Med. Record*, 1918, xciv, p. 498).—**C. A. Johnston** comes to the following conclusions: (1) Cases which have never had diphtheria or antitoxin give a positive reaction in a large percentage (86 per cent. in first year and declining to 26 per cent. between 12 and 21). (2) Cases who have had the disease or have had immunising doses of antitoxin three or more years previously very frequently show a reaction (in 50 per cent. between 8 and 12 and 40 per cent. between 12 and 21 years). (3) Cases who have had diphtheria or antitoxin within 2 weeks of the test show a

reaction in a comparatively small number of cases. (4) Individuals who are exposed to diphtheria, such as doctors and nurses, give a positive reaction in 12 per cent.

J. D. ROLLESTON.

Prophylactic immunity in scarlet fever (*'La Pediatria,'* 1919, xxvii, p. 1).—**G. Di Cristina** and **R. Pastore** refer to a previous publication in 1916 where they claim to have discovered in the scales of desquamating scarlet-fever patients a substance reacting specifically with the blood of individuals suffering, convalescent or recovered from scarlet fever. They have now by introducing this body into a horse produced an immunising serum which they have injected subcutaneously into a number of children exposed to infection of scarlet fever. In the first class, namely those exposed in a high degree, such as sleeping in the same bed or room, among forty cases there was not a single case of contagion. In the second class, where the risk of infection had been less, the children merely belonging to a family where there had been a case of scarlet fever, in the case of twenty-five contacts there, no infection took place. In the third class, where the children had been exposed to infection in a hospital ward in which a case of scarlet fever had developed, no children developed the disease after inoculation. They go on to state that as regards the duration of the immunity, they had some of the children under observation for six months, during which period the "amboceptor" was always present.

SIDNEY NATHAN.

Bacteriology of measles (*'Journ. Amer. Med. Assoc.,'* 1918, lxxi, p. 1201).—**L. Hektoen** states that the chief bacteria of importance in measles are: (1) The diplococcus found by Tunnick early in the attack in the nose and throat; (2) influenza bacilli; (3) hæmolytic streptococci. As opsonins and probably other bodies specific for the Tunnick diplococcus invade the blood in measles, this coccus must be of some significance. Hæmolytic streptococci predominate overwhelmingly in the broncho-pneumonia and other allied acute processes in measles, and influenza bacilli are found very frequently in the throat secretions and lung lesions. As hæmolytic streptococci may spread rapidly among measles patients and largely by droplet and throat infection, the best means to avoid the most serious complications of measles, viz. streptococcus broncho-pneumonia, is early isolation of the patient. The possible danger of streptococcus infection by food should not be overlooked.

J. D. ROLLESTON.

Experimental measles (*'Journ. Amer. Med. Assoc.,'* 1919, lxxii, p. 117).—**L. Hektoen**.—The results of human experiments show that the cause of measles is present in the nasal secretions, scrapings of the skin (epithelial debris and blood) and the blood during the earlier part of the eruptive stage. Attempts to produce by inoculation a mild, modified or localised form of measles have not yet given conclusive results. The only animal proved susceptible to measles so far is the monkey, but the susceptibility is not marked and seems subject to variation. The disease in the monkey is mild, and after an incubation period of several days takes the form of a brief fever, with which may be associated more or less typical skin changes, respiratory symptoms, Koplik's spots and the characteristic measles leucopenia. The results in monkeys show that the cause of measles is present in the naso-pharyngeal secretions and the blood at least twenty-four hours before the rash, as well as for a day or two afterwards.

J. D. ROLLESTON.

Insusceptibility of monkeys to inoculation with blood from measles patients (*Bull. Johns Hopkins Hosp.*, 1919, xxx, p. 57).—**A. W. Sellards** and **J. A. Wentworth** inoculated three monkeys intraperitoneally with the defibrinated blood of measles patients taken early in the course of the disease (from four to eighteen hours after the first appearance of the rash) from moderately severe cases. The animals remained entirely free from any symptoms that were either diagnostic or even suggestive of measles. Two of the monkeys which were infected a second time failed to develop any symptoms. After an incubation period of eleven days 3·5 c.c. of blood was taken from one of the monkeys and injected subcutaneously into a human volunteer, but no symptoms developed.

J. D. ROLLESTON.

Immunisation against measles (*Journ. Amer. Med. Assoc.*, 1919, lxxii, p. 1046).—**D. L. Richardson** and **H. Connor**.—Six children were definitely exposed to measles and were apparently protected from the disease by immune serum derived from convalescents from four to forty days after the appearance of the rash. Eight others were partially exposed and did not develop the disease after immunisation. Three other patients were inoculated with virus from the nose and throat of measles cases on the first day of the rash. In two there was no reaction, and in the third there was a slight reaction indicated by a transient rise in temperature and an atypical rash. The writers admit that these experiments are too few to come to a conclusion, but regard them as sufficiently suggestive to warrant further investigation.

J. D. ROLLESTON.

Toxic meningitis following measles (*Arch. of Ped.*, 1918, xxxv, p. 482).—**F. Tweddell** reports a case in a nervous boy, aged 4½ years, who had had a mild attack of infantile paralysis from which he had completely recovered nine months previously. Three weeks after the onset of measles he developed symptoms of meningitis: 30 c.c. of clear cerebro-spinal fluid were removed under pressure and a month later the boy's enlarged tonsils and adenoids were removed. Another 20 c.c. of clear spinal fluid were withdrawn under firm pressure and were found to contain increased albumin, 41 cells per c.mm. and did not reduce Fehling's solution. Complete recovery took place five months later.

J. D. ROLLESTON.

Observations on throat smears in measles, rubella and scarlet fever (*Journ. Amer. Med. Assoc.*, 1918, lxxi, p. 104).—**R. Tunnickliff** has isolated Gram-positive diplococci in anaerobic cultures from the blood of measles and rubella patients. The measles diplococcus is small and round; the rubella diplococcus is larger, elongated, with pointed ends and a capsule. Similar diplococci were also isolated from the throat, nose, eye and ear of measles patients, and from the throat of rubella patients. Morphologically, identical organisms were found in smears taken from the tonsils and anterior pillars of the fauces early in these diseases, and disappeared with the abatement of the throat affection. Smears from scarlet fever throats showed many polymorphonuclears and a variable amount of cocci, usually round, in pairs, or chains of rarely more than four, with generally a wide capsule.

J. D. ROLLESTON.

Rashes in varicella (*Arch. de Méd. des Enf.*, 1919, xxii, p. 57).—**J. Comby** records 19 cases of accidental eruptions in chickenpox, in

18 of which the rash was scarlatiniform and in 1 morbilliform. In 1 case, however, the patient had two rashes in succession, the first pre-eruptive and scarlatiniform and the second post-eruptive and morbilliform six days later. In 9 cases the rash preceded the eruption of varicella or occurred at the onset, in 7 it accompanied the eruption, and in 3 it occurred at the end of the disease. The rash is probably an infective or toxi-infective erythema, and has no prognostic significance.

J. D. ROLLESTON.

Early vaccination of infants (*Le Nourisson*, 1918, vi, p. 294).—**R. Wurtz**.—It is generally supposed that a newborn child is more or less insusceptible to vaccination, and it is therefore the practice not to vaccinate it before it is three months old. Accoucheurs attached to the Paris hospitals, however, are of the unanimous opinion that vaccination should be performed early, with certain obvious exceptions such as congenital weakness, diseases of the newborn or dermatitis. Bonnaire does not vaccinate until after the eighth or tenth day, as fatal hæmorrhages in the newborn usually occur in the first week. The importance of early vaccination is shown by the fact that an unvaccinated child aged 2 months recently died of small-pox in Paris.

J. D. ROLLESTON.

How long does whooping-cough remain contagious? (*Paris Méd.*, 1919, i, p. 44).—**P. Lereboullet**.—From examination of the sputum of whooping patients for the Bordet-Gengou bacillus, the Danish observers Chievitz and Meyer have found (1) that the cultures are almost always positive in patients who have been coughing for a fortnight and have only had typical paroxysms for a week at most. (2) That the cultures are positive in two-thirds of the cases in which the paroxysms have lasted a fortnight. (3) Only a third of the cases are positive in which the paroxysms have lasted three weeks. (4) Cultures are very rarely positive after the fourth week (3 out of 36 cases). (5) Beyond the fifth week out of 58 cases only one was positive. The practical conclusion is that whooping-cough is contagious for only four to five weeks at most. Four weeks after the appearance of the paroxysms contagion need not be feared and isolation is unnecessary.

J. D. ROLLESTON.

Pertussis vaccine in whooping-cough (*Ther. Gaz.*, 1918, xxxiv, p. 159).—**E. S. Logé** speaks favourably of vaccine therapy in whooping-cough. He begins with 5 c.c. ($\frac{1}{2}$ mil.), corresponding to 60 million bacteria of combined pertussis vaccine. If there is a marked reaction, local or general, it is considered a contra-indication to an increase in dosage. When the reaction has subsided, the dose at each subsequent reaction is increased from 0.1 to 0.3 c.c. over the preceding one. The author never uses more than 1 c.c. (1 mil.), corresponding to 120 million, at one time. He usually gives the second dose on the second day, and the subsequent doses at intervals of three to four days. The severity of the "whoop" rather than the age is taken as a guide to the dose. No harmful effects have been noted, freedom from complications appearing to be one of the favourable effects of the treatment. If the vaccine is given in fairly large or ascending doses, it brings about a more rapid cure than smaller doses of constant size.

J. ALLAN.

The use of immune serum in the treatment of whooping-cough (*Amer. Journ. Med. Sci.*, 1917, cliv, p. 39).—**A. Bleyer** gave injections of human blood-serum in forty-five cases of whooping-cough which he divided

into three groups: In the first group the blood was from persons who were convalescent from pertussis within three months; in the second the blood was from those who had had the disease at more remote periods; and in the third from persons who had never had it. The results did not justify Bleyer in ascribing such improvement as occurred to the specific action of the blood injected.

J. D. ROLLESTON.

The motor-car in the treatment of whooping-cough (*Journ. de Méd. de Paris*, 1917, xxxvi, p. 215).—**Challamel** reports several cases of whooping-cough in which the cough ceased after a few drives in a motor-car. He attributes this to a rapid and prolonged aëration of the respiratory system. He considers it ought to be used as early as possible in the disease, but of course any fever is a contra-indication. Several of his cases had a few bronchitic râles in the chest, but were equally benefitted with the others. The child should be well covered, facing the engine in an open car. A drive of two or three hours is recommended. In some cases the cough ceased after one drive; in others three or four were necessary.

J. PORTER PARKINSON.

Experimental study of parotitis (*Journ. Amer. Med. Assoc.*, 1918, lxxi, p. 639).—**M. Wollstein** found that by injecting the parotid gland and testicle of cats with a sterile filtrate of the saliva of children and adults in the active stage of mumps a condition similar to that of mumps in human beings resulted, a rise of temperature, swelling of the parotid and testis, and polymorphonuclear leucocytosis being noted after an incubation period of five to eight days. The virus was most readily detected in the saliva during the first three days of the disease, was less easily found on the sixth day, and was entirely absent after the ninth day. The virus was also detected in the blood of patients showing severe constitutional symptoms. The serum of recovered cats was found to contain an immune body, which diminished or even neutralised the action of the virus of mumps.

J. D. ROLLESTON.

Epidemic cerebro-spinal meningitis (*La Pediatria*, 1918, xxvi, p. 193).—**G. di Cristina** and **M. Sindoni** give an exhaustive account of the epidemic at Palermo in 1917. The mortality was unusually high, for which inefficacy of the serum used was not so much to blame as the unexpected appearance of relapses in cases already cured or improved. During these relapses there appeared in the cerebro-spinal fluid certain meningococci with the same morphology but different biological properties to those of the ordinary Weichselbaum's meningococcus, since they did not easily agglutinate with specific serum nor absorb the specific amboceptor, and resisted the serum as happens when an immune serum is made to act experimentally on pure cultures of the corresponding micro-organism. Such serum-resisting meningococci are probably the same as the original, modified in their biological properties by the action of the antibodies of the serum employed. Vaccine therapy by the intravenous method gave unexpected results by modifying both the general and local symptoms. By its use the fever was lowered and finally abolished and the cerebro-spinal fluid became clear from the disappearance of inflammatory cells and meningococci.

VINCENT DICKINSON.

Late relapses in cerebro-spinal meningitis (*Arch. de Méd. des Enf.*, 1919, xxii, p. 73).—**A. Netter** states that relapses occurring more than a month after recovery from cerebro-spinal fever are rare, having observed only four instances among 380 cases. The date at which they occurred was 33, 45, 60 and 73 days respectively after the first attack. The rarity of late relapses is due to active immunity conferred by the first attack and passive immunity due to serum treatment. The appearance of the relapses implies that immunity in such cases has not been conferred or else that it has disappeared. It also indicates the intervention of virulent meningococci, which may have persisted in the meninges or other foci in the course of the disease. In other cases the relapse may be due to a fresh infection. In two of Netter's cases the relapse was probably caused by measles, which predisposes the patient to secondary infection. In the treatment of relapses Besredka's method should be used to prevent anaphylaxis.

J. D. ROLLESTON.

Tertian malaria in two infants under two months of age (*Amer. Journ. Dis. Child.*, 1918, xvi, p. 391).—**C. J. Bloom**.—The symptoms were marked cachexia, pronounced diminution in the hæmoglobin and red-cell count, enlarged spleen and a prolonged temperature (atypical as compared with adults). In one of the cases the tertian plasmodium was also found in the mother, who had had malaria prior to the child's birth. A soluble preparation of quinine, 0.4 gr., in three doses was given for seven consecutive days, and thereafter every other day for one month.

J. D. ROLLESTON.

A case of rat-bite fever in Sydney (*Med. Journ. of Austral.*, 1918, i, p. 531).—**O. R. P. Muller**.—A girl, aged 8 years, was bitten by a cat, and three weeks afterwards a painful purplish-red swelling formed on the back of the left wrist with swelling of the forearm and lymphangitis. After treatment by incision and fomentations recovery seemed to have occurred. A few days later she became delirious, and the left arm showed numerous red macules, and a few on the right. The temperature ranged between 38.3° C. to 40° C. All the symptoms gradually disappeared, but the child became subject to irregular exacerbations of fever together with an outbreak of spots. The attacks at first lasted 7 to 10 days with intervals of 2 to 4 days, and later 8 to 12 hours at intervals of 7 to 8 days, and finally disappeared. The child lived near a dock, and it was thought the cat that inflicted the bite preyed on rats.

F. R. B. ATKINSON.

An epidemic of food-poisoning (*Arch. de Méd. des Enf.*, 1918, xxi, p. 351).—**J. Renault and Romme**.—The epidemic was characterised by a sudden onset, with fever, headache, vomiting, diarrhoea and abdominal pain. The symptoms as a rule lasted only a few days, and only three fatal cases occurred among 220 children admitted to the various Paris hospitals. On enquiry the outbreak was traced to the consumption of beef contaminated by paratyphoid B bacilli. The organisms had been killed by cooking so that infection could be excluded, but the toxins had not been affected by the process, so that an epidemic of food-poisoning had resulted.

J. D. ROLLESTON.

Clinical observations on mixed infections ('*La Pediatria*,' 1918, xxvi, p. 321).—**S. Maggiore** reports several cases of mixed infection, viz. typhoid-Malta fever, typhoid-malaria, measles-dysentery and Leishmaniosis-Malta fever. From a clinical point of view simultaneous infection by more than one micro-organism modifies the usual type of the disease both as to its symptoms, course and duration. Usually the illness is more serious than in single infections, especially in measles-dysentery, where the result is invariably fatal. The double infection can be influenced by specific vaccine therapy with favourable result except in the case of measles-dysentery, in which the negative therapeutic result may probably be attributed to the decided lowering of the power of resistance which measles produces in many patients. Exact diagnosis is only possible by laboratory methods, while that based on symptoms alone is almost always erroneous.

VINCENT DICKINSON.

Clinical observations on diplococcal vaccinothrapy ('*La Pediatria*,' 1918, xxvi, p. 524).—**R. Pastore** describes in detail several cases of pulmonary conditions treated intravenously at intervals of 24-32 hours with suspension of Fränkel's diplococcus in doses of 1-2 c.c. containing from 10,000 to 20,000 organisms. It appears certain that morbid processes induced by Fränkel's diplococcus when localised in the pleura or pulmonary parenchyma may be favourably influenced by this method. In the majority of the cases resolution of the morbid process was obtained without complications. Specially interesting was the result obtained in purulent pleurisy, which usually requires drainage with resection of ribs; but this surgical intervention does not hasten the cure of the morbid condition, which develops in every detail until it spontaneously exhausts itself. With antidiplococcal vaccine therapy on the other hand the morbid process is cut short and the contamination of the pleural cavity by other micro-organisms is avoided. Moreover, the fact that the pleurotomised child has to breathe with one lung lessens its power of resistance. By diminishing the number of days during which the pleura is kept open a distinct advantage is gained.

VINCENT DICKINSON.

Vaccinothrapy in Malta fever ('*La Pediatria*,' 1918, xxvi, p. 282).—**P. Chiriaco** describes three cases in children, aged 10, 8 and 3 years respectively, and concludes that this remedy is the only certain cure; diet, intestinal disinfection and quinine merely prolong the illness and reduce the vitality of the patient, opening the way for various complications. A vaccine prepared after the method of Di Cristina and Caronia, by intramuscular injection, besides being absolutely free from any untoward effects and easy of application, gives most efficacious results and causes a rapid and complete disappearance of the infection.

VINCENT DICKINSON.

Disorders of Metabolism.

Diabetes mellitus in children ('*Amer. Journ. Dis. Child.*,' 1917, xiii, p. 145).—**P. C. Jeans** alludes to the papers by Morse and Knox (*vide* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1915, xii, p. 90), and records two personal cases. The first was a moderately severe case in a 2-year-old girl, who came under observation early, was made sugar-free by an initial fast, and remained sugar-free through an observation period of eighteen months

except on five occasions. One of these was due to intentional over-feeding, and another was the result of an acute infection (bronchitis). Though she was by no means cured the prognosis was good. The second was a mild case in a 3-year-old boy, who came under observation two weeks after the onset of symptoms. Merely lowering the diet was sufficient to make the urine sugar-free. There was relief of the polyuria and subjective symptoms, except bread-hunger, by regulation of the diet. He remained sugar-free and in good health during the four months of observation. Following this the dietary restrictions were broken, and death occurred six and a-half months after the onset from acidosis and uræmia.

J. D. ROLLESTON.

Diabetes of rapid course in a child, aged 15 years (*Arch. de Méd. des Enf.*, 1917, xx, p. 314).—**P. Gautier and C. Saloz.**—The case presented the following points of interest: (1) The rapid course—two months—which is exceptional in a child of this age, in whom the disease is generally much longer; (2) the short duration of the coma, which lasted only one day; (3) the inefficacy of intravenous injections of bicarbonate of soda, which had no effect on the presence of acetone or diacetic acid in the urine; (4) the Wassermann reaction, which was positive in the blood, as in all cases of diabetes investigated by the writers; (5) the presence of 30,000 leucocytes in the blood—a phenomenon which was not explained even at the autopsy; (6) the large amount of sugar in the cerebro-spinal fluid (5.8 grm. per 1000); (7) the absence of glycuronic acid in the urine, as is the rule in diabetes; (8) the macroscopical and histological integrity of the pancreas and liver.

J. D. ROLLESTON.

Prognosis in juvenile diabetes (*New York Med. Journ.*, 1917, cvi, p. 1230).—**Editorial.**—The bad prognosis of this disease in the young has been much modified by recent work. The Allen starvation treatment has shown remarkable results. The chief danger of the disease is acidosis from carbohydrate-free diet, and the appearance of acid in the urine must be at once checked by administration of carbohydrate diet. A child is always nearer the brink of acidosis than an adult, because he requires in his normal metabolic processes more basic minerals and more sugar than the adult. The hopeless prognosis in young patients is in a great part due to the tardiness with which the disease is discovered, when the whole metabolic balance is too badly disorganised for help. The greater size and capacity of the liver in the young gives a hope of readjustment being possible under treatment, because of the greater capacity for sugar assimilation. The newer work done on diabetes should show that a case of diabetes in a child should not have a worse prognosis than in an adult.

J. PORTER PARKINSON.

Diabetes insipidus in children (*Med. Record*, 1917, xcii, p. 487).—**R. D. Moffett.**—Diabetes insipidus is a disease characterised by polyuria, polydipsia, absence of sweating, anorexia, constipation, ocular changes (cataract, xanthoma palpebrarum, pigmentary choroiditis, optic atrophy, etc.), headache, lumbar pains, impotence, slight blood-changes, loss of weight, œdema of feet, exaggerated knee-jerks, and not much disturbance of metabolism. Moffett regards these symptoms as originating in the pituitary gland and not in other parts of the body. He records a case in a boy, aged 6 years, in whom most of the above symptoms were present. During his stay in hospital his intake of fluid varied from 1000 c.c. to 9000 c.c. per day, and the fluid output varied from 1000 c.c. to 2000 c.c. per day. This great difference in the amount of fluid output and intake was markedly influenced by the use of pituitary extract given in $\frac{1}{2}$ c.c. doses hypodermically twice at

day. A skiagram of the head showed a tumour in the region of the pituitary gland. A review of the literature and a full bibliography are appended.

J. D. ROLLESTON.

Polyuria in some cases of medullary hypernephroma (*Med. Journ. of Austral.*, 1918, II, p. 431).—W. F. Litchfield reports two cases in a boy aged 4 years and a girl aged $2\frac{1}{2}$ years, and refers to one in a girl aged $2\frac{1}{2}$ years reported as a case of diabetes insipidus and chronic hydrocephalus in the '*Austral. Med. Gaz.*' of June, 1910, by Dr. Cherry which he thinks was similar to his own. Two of the cases showed proptosis and swelling of the temporal regions with polyuria and a tumid abdomen, but in the second of his cases there was no proptosis or tumour of the scalp but marked erosions of the bones of the skull. The post-mortem examination in this case showed a hæmorrhagic tumour above the left kidney, and about twenty areas of eroded bone were found in the skull. He considers the suprarenals had something to do with the polyuria.

F. R. B. ATKINSON.

Some clinical forms of acetonæmia (*Riv. di Clin. Pediat.*, 1917, xv, p. 549).—G. Guidi draws attention to the fact that the great majority of cases of periodic vomiting and of appendicitis present themselves in a typical form and are easily distinguished. In some cases, however, the diagnosis is difficult, in others impossible. The most frequent cause of this difficulty is the possible association of the two diseases in the same subject. In cases of doubt one should act as if the appendicitis was certain, and in the case of a child advise the removal of the appendix. Side by side with these forms of acetonæmia with appendicular symptoms there are cases in children where the symptoms of acetone intoxication are associated with marked abdominal signs, such as attacks of intense pain and swollen abdomen, so as to obscure the true interpretation of the condition present. Guidi cites several cases where, besides vomiting and an abundant elimination of acetone from the lungs and kidneys, there were other symptoms of marked gravity, directing attention specially to the abdomen; the patients were restless, evidently ill, with an abdominal facies, small rapid pulse, complaining of continuous or intermittent severe diffuse abdominal pain; the abdomen was distended and the bowels confined. The doubt arose whether the acetonæmic condition was not a secondary factor in some form of acute abdominal disease, such as intestinal obstruction, incipient peritonitis, etc. In these forms of acetonæmia with abdominal symptoms there is no evident organic intestinal lesion, as is proved by the rapid and progressive diminution of the symptoms contemporaneously with diminution of the toxic condition and the rapid return to normal. There exists, however, a noticeable dilatation of various parts of the intestine akin to a state of paresis of the intestinal muscular fibre, due probably to the action of the circulating toxic products, and analogous to the distension of the bladder with retention of urine which was pointed out by Comba in cases of periodic vomiting.

VINCENT DICKINSON.

Acidosis with special reference to children (*Practitioner*, 1917, xcviii, p. 477).—F. Hewat describes four cases of this nature and recommends the following treatment. In simple cases, a purgative and enema, followed by an alkaline mixture and dextrose added to the diet. In severe cases such as cyclic vomiting, an enema and a glucose solution of 5 to 10 per cent. and bicarbonate of soda may be dissolved in it. Warm water well sweetened and the above salt in 10-gr. doses to be given by the mouth.

F. R. B. ATKINSON.

Amino-aciduria in cachectic infants (*'La Pediatria,'* 1918, xxvi, p. 65).—**S. Cannata** examined the urine in four infants with cachexia following tubercular and syphilitic infection by the Henriques-Sørensen method for amino-acids. He found that the elimination of these substances was increased in all the cases, and that the relation of them to the total nitrogen was almost double that met with in healthy infants. In one case in which the hepatic function was markedly affected the elimination of amino-acids was slightly in excess of that met with in the other three cases. This shows that in cachectic states following chronic infections such as syphilis and tubercle, whether the hepatic function was affected or not, there is an alteration in the intermediary metabolism by which the amino-acids, increased by the excessive cellular disintegration, are incapable of completely undergoing the synthetic process necessary for their utilisation on the part of the organism, and are thus eliminated in large quantities by the urine.

VINCENT DICKINSON.

The urinary reaction in breast-fed and bottle-fed infants (*'Riv. di Clin. Pediat.,'* 1917, xv, p. 462).—**M. Flamini** found that in breast-fed infants the elimination of sulphates is relatively scanty, but less so than that of phosphates, that of ammonia is wanting or very scanty, while acetone is not present. In the bottle-fed, on the contrary, the phosphates are abundant, the sulphates either normal or relatively scanty, uric acid is generally evident, ammonia is present in appreciable quantities, but acetone is absent, while in breast-fed babies the elimination of sulphuric acid, though scanty, is greater than that of the phosphates. In bottle-fed babies the elimination of sulphates and sulphur compound ethers is scanty or normal, and less than that of the phosphates, which are abundant. In cases of intestinal disturbance, when marked or accompanied by organic wasting, there is a large elimination of phosphates and uric acid, and probably also of ammonia. In the eliminated phosphates the alkaline predominated; the earthy were very scanty when the phosphaturia was not very marked, but became more evident when this became more intense. In bottle-fed children suffering from intestinal disturbance and wasting a dominant feature was increased acidity of the urine due to acid phosphates. Administration of calcium lactate in doses of half a gramme in each bottle rendered the urine less acid.

VINCENT DICKINSON.

The familial tendency to fat incapacity in infancy and childhood (*'Journ. Amer. Med. Assoc.,'* 1917, Lxix, p. 516).—**T. S. Southworth** draws attention to the fact that the incapacity of children to digest fat sometimes runs in families and records the following instance: Two children had previously been born in a family; each had thriven remarkably well at birth, but each in turn, on being weaned at nine or ten months of age, had done very poorly on cow's milk, remaining approximately stationary for months until limited to a pint of skimmed milk daily, with increase of other foods to provide for their caloric needs. With the birth of a third child there was the same successful maternal nursing, but when the time for weaning came instructions were given that the baby should receive only skimmed milk supplemented by other food. This was clearly understood by the parents not to be a temporary but a permanent order. The results were most satisfactory. Progress on the bottle was uninterrupted, and the child has done well in marked contrast to the two older children.

T. R. WHIPHAM.

Diseases of the Urogenital System.

The ætiology and treatment of enuresis (*Journ. Amer. Med. Assoc.*, 1918, LXXI, p. 626).—**J. I. Grover** studied 200 cases of bed-wetting for a period of more than seven months. The ages ranged from four to twelve years; 62 per cent. were males. There was a history of enuresis in the immediate family in 56 per cent. In 59 per cent. the wetting took place only at night, and in 38 per cent. both day and night. As regards ætiology, 36 per cent. had had adenoids removed without relief; in 2 cases the wetting was definitely worse after the operation. Fifty-one per cent. of the boys had been circumcised, and were, nevertheless, bed-wetters. Only 3 boys and 1 girl had adhesions of the prepuce. Acidity, alkalinity and high or low specific gravity of the urine were all held of little consequence, and never allowed to influence the treatment. There was a definite history of pin-worms in 20 per cent. Grover regards enuresis as a symptom of an underlying cause, namely neuromuscular fatigue, which is caused by excessive exercise, too little sleep, mental strain and an improper diet. After the cause has been removed the habit may still remain, just as the spasmodic cough in whooping-cough persists long after the infection has ceased. Grover's treatment was planned along hygienic and dietetic lines. No drugs, operations, or mechanical means were employed. All food was forbidden between meals. The diet included milk, butter, eggs, meat, fish, bread, cooked cereals, macaroni, vegetables, oranges, stewed fruits, and simple unsweetened desserts. Soups, coffee, tea, cocoa, sweet and salty and highly seasoned food, sweets, pastry, cake, jellies and jams were forbidden. Meat, vegetables and eggs were forbidden at night. No fluids were allowed after 4 p.m. There were regular hours for urination at night, viz. 7 p.m. on going to bed, 10 p.m., and not again till 6 a.m. Children whose bladders could not hold more than 2–3 oz. were made to urinate also at 2 a.m. The day-wetters were made to urinate at regular intervals from twenty minutes to three hours during the day, and the interval was gradually lengthened until a satisfactory result was reached.

J. D. ROLLESTON.

The treatment of enuresis without drugs (*Amer. Journ. Dis. Child.*, 1918, xv, p. 339).—**W. R. P. Emerson**.—The treatment consisted of four methods, all or one of which may be used to establish the "dry habit," which, once started, may be continued by careful oversight: (1) Mental suggestion. Arousing the patient's interest and attention to the act by rewards and other mental suggestions may be sufficient to relieve about 40 per cent. of all cases. (2) Establishing the dry habit. This is accomplished by teaching the reflex to act at regular intervals and always before the "wet habit" occurs. The periods of urination are gradually lengthened. (3) Local irritation. This is produced by irritating the vesical sphincter and posterior urethra with a bougie à boule so that the sensory impulses will be sufficiently intensified to attract the patient's attention until the habit of control is attained. (4) Cerebro-spinal irritation. Twelve c.c. of normal saline solution is injected into the spinal canal, after removal of 10 c.c. of spinal fluid by lumbar puncture. This method is necessary only in extreme cases after other methods fail or in those complicated by mental deficiency.

J. D. ROLLESTON.

Urinary disturbances: Incontinence and frequency in children and adults—their cure by electrical methods (*Practitioner*, 1919, cii, p. 239).—**F. Hernaman-Johnson** finds nearly all cases of "wetting

the bed" in children are amenable to the application of rhythmically interrupted sinusoidal or faradic current through the region of the bladder for fifteen minutes daily for a period of two to four weeks.

F. R. B. ATKINSON.

Rupture of a hydronephrotic kidney ('*Urol. and Cut. Rev.*,' 1919, xxiii, p. 260).—A. H. HARRIGAN.—A girl, aged 10 years, fell down while playing and struck the left side of her abdomen against a box. Vomiting set in, and two days later she was admitted to hospital with severe pain in the left kidney region and a distended and tender abdomen. On laparotomy there was a considerable amount of free blood, and a ruptured hydronephrotic left kidney was found. Nephrectomy was performed, and recovery took place.

J. D. ROLLESTON.

An unusual type of vesical calculus ('*Arch. of Ped.*,' 1918, xxxv, p. 615).—B. BASHINSKI.—A coloured boy, aged 7 years, was brought to hospital for pain in the bladder and perinæum. The prepuce was very œdematous, and there was a thick yellow discharge from the penis. X rays showed a large stone in the bladder with a pin in the centre as nucleus. Suprapubic cystotomy was performed and the stone was removed. Complete recovery took place.

J. D. ROLLESTON.

Vulvitis caused by the accumulated secretion of Tyson's glands ('*Brit. Med. Journ.*,' 1918, ii, p. 57).—J. D. MALCOLM reports a case in a healthy-looking, well-cared-for country child, aged 2½ years, who had a very offensive vaginal discharge. Examination under an anæsthetic showed that the clitoris was completely covered by its prepuce, the edges of which were adherent back to the junction of the labia minora. The whole vulva was inflamed. A knife was required to expose the clitoris, which was only partially adherent. Under the deepest part of the clitoris the secretion of Tyson's glands was found in small inspissated granules exactly as in a case of persistent phimosis in the male. These granules were big enough to be seen and felt through the skin. The offensive discharge ceased very quickly after the parts were exposed and cleaned. The author thinks that in all cases of intractable vulvitis it would be well to make a thorough examination of the under-surface of the prepuce, with the aid of an anæsthetic if necessary.

J. ALLAN.

Sarcoma of the right ovary in a child aged 23 months ('*Amer. Journ. Obst.*,' 1918, lxxviii, p. 764).—H. E. HAYD reviews the literature, including the cases reported by Higgins (*v. BRITISH JOURNAL OF CHILDREN'S DISEASES*, 1915, xii, p. 161), and reports a case in which he removed a small round-celled sarcoma from the right ovary about the size of a goose's egg. The child died five weeks after the operation, probably from exhaustion with perhaps general sarcomatosis.

J. D. ROLLESTON.

Dermatology and Syphilis.

Two cases of onychia congenitalis ('*Urol. and Cut. Rev.*,' 1919, xxiii, p. 159).—S. M. DA COSTA and J. W. van der Valk report two cases which occurred in plural pregnancy. The first was a boy, aged 3 years, one of triplets, who had been affected since birth with pachyonychia of all his nails and with an anomaly of all his follicles, red papules covering the outer surface of the limbs, with a horny plug or comedo-like body in the centre of them. One of his uterine companions died when three weeks old

without any affection of the skin or nails. The other one had developed normally. The second case was a boy, aged 12 years, who since birth had shown a vesicular dystrophy of the skin and nails of both hands and feet. The patient was one of a twin-birth, but the development of the second foetus stopped after some time, and at birth was only the size of an orange. Vesicles of different sizes would appear on different parts of the body and healed without leaving scars. Some fingers had no nails at all; the remaining nails were thickened under the nail-plates and cylindrically bent, showing here and there a longitudinal fissure. J. D. ROLLESTON.

Congenital œdema (*Edin. Med. Journ.*, 1919, I, p. 230)—**D. M. Greig** reports a case in a male infant. The œdema, which was noticed at birth, was strikingly symmetrical. It formed on the dorsum of each foot a very prominent swelling, which appeared to overhang the fifth metatarsal and to bulge forward over the toes. The skin over the areas involved was smooth and had a distended appearance. The œdema did not pit easily on pressure, and was peculiarly firm and resistant. It was not noticed that the feet were less warm than natural, and there was no discoloration nor dilatation of vessels. No enlarged lymphatic glands were anywhere observable. Some previously recorded cases are briefly commented on.

J. ALLAN.

Telangiectasic nævus of one side of the face and soft palate (*La Med. de los Niños*, 1918, xix, p. 166).—**M. Vargas**.—A girl, aged 4½ years, presented an enormous dark red swelling of the whole of the left side of the face, the inner side of the cheek, the alveolar margin of the lower jaw, left half of the tongue, left anterior pillar and part of the soft palate. On the slightest touch the tissue became swollen, its temperature rose, and its colour changed from violet to red. The parents stated that at birth the child had only a small red spot on the face, but that it had gradually grown, especially within the last six months. The case, which was obviously inoperable, illustrates the necessity of an early removal of any nævus which shows a tendency to increase in size.

J. D. ROLLESTON.

Acute erythema resembling measles (*Lancet*, 1919, I, p. 255).—**F. H. Kelly** reports a case in a healthy boy, aged 13 years, who had previously had four attacks of urticaria, for which no cause could be found. In the early stages the erythema very closely resembled measles, but later bullæ formed. The rash was very widespread. No cause was found for the eruption.

J. ALLAN.

A case of hæmatidrosis (*Brit. Med. Journ.*, 1918, I, p. 532).—**C. T. Scott** describes this unusual type of functional disturbance following shock in a female child, aged 11 years. The sweats occur upon the forehead only, from the eyebrows to the roots of the hair, and as far as the outer margins of the orbits laterally; they consist of either clear watery fluid, or white froth or bright pink fluid. There are no sweats during sleep, but the child is frequently awakened by one coming on. From a scraping of the skin of the forehead staphylococci and streptococci were grown in small numbers only. Histological examination of the sweat shows red and white corpuscles in all three types of sweat, but far more in the "pink" sweat than in the others. Bacteriological examination shows staphylococci, a few streptococci and a Gram-negative bacillus, apparently of the Friedländer group. Examination reveals no abnormal signs in the nervous system, heart, lungs

or digestive system. The urine is copious, up to six pints daily, is acid, specific gravity 1020, and contains no albumin or sugar. The case has hitherto not proved amenable to treatment. J. ALLAN.

Mongolian blue spots at São Paulo (*Arch. de Méd. des Enf.*, 1918, xxi, p. 600).—C. Ferreira.—During 1917, 432 infants attended the Infants' Dispensary at São Paulo; 397 were whites, 23 mulattoes and 12 negroes. Mongolian blue spots were present in 12, or 3 per cent. of the whites, in 10, or 43 per cent. of the mulattoes, and in 7, or 58·3 per cent. of the negroes. Nineteen infants had only one spot, 5 had two, 2 had three, 2 had four, and 1 had eleven, two of which were on the shoulders, five on the back, two on the dorso-lumbar region and buttocks, and two on the wrists. As compared with previous years (*vide* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1918, xv, p. 149), the frequency of the spots was lower among the mulattoes and negroes than before. J. D. ROLLESTON.

Herpes zoster: its cause and association with varicella (*Brit. Med. Journ.*, 1919, I, p. 91).—R. C. Low submits that in view of these facts: (1) That herpes zoster in a household is frequently followed by a case or cases of chicken-pox, (2) that cases of chicken-pox may be followed by cases of herpes zoster in the same house, and (3) that cases of herpes zoster, in addition to the ordinary lesions, may show an eruption similar to that of chicken-pox—one is almost forced to conclude that these two diseases are probably due to the same virus. He suggests that in herpes zoster the infection is probably local, through the nose, along the lymphatics, round the olfactory nerves, as has been shown to be the mode of infection with the virus of anterior poliomyelitis, a disease which has many points of analogy with herpes zoster. Once the virus reaches the meninges and cerebro-spinal fluid it is easy for it to get to the ganglia on to the sensory nerve trunks. In chicken-pox there is probably a blood infection with the virus. In the cases which show both herpes zoster and a varicella-like eruption, the virus probably attacks the ganglia first, and thence, four or five days later, gets into the general circulation, producing the generalised eruption. Short histories of three cases are given, and a bibliography is appended.

J. ALLAN.

Erythema nodosum (*Med. Press.*, 1918, II, p. 6).—Marfan states that erythema nodosum only occurs in tuberculous subjects, usually in those in whom the infection is still latent. It is the outward and visible manifestation of slight, attenuated, curable tuberculosis, but is assuredly of bacillary origin. He advocates treatment on anti-tuberculous lines.

J. ALLAN.

Phagedænic ulcer of warm climates (*Med. Journ. of Austral.*, 1919, I, p. 87).—W. McMurray and F. O. Stokes describe the following cases: Females, aged 10 years, right leg; aged 8 years, right leg; aged 6½ years, left forearm. Males, aged 10 years (two cases), left forearm; aged 10 years, left wrist; aged 2 years, right forearm. The child of two died; all the others recovered. In one of the cases aged 10 years the Wassermann reaction was positive, and the *Spirochæta Schaudinni* was found in a smear.

F. R. B. ATKINSON.

Sabouraud's dental sign in hereditary syphilis (*Riv. di Clin. Pediat.*, 1918, xvi, p. 299).—G. Guidi investigated this sign—a mamillary eminence on the internal surface of the first upper molars—in 150

children. He found it present in nineteen cases of children suffering from various diseases, but in none of these was there any syphilitic history, nor symptoms of syphilis nor a positive Wassermann reaction.

VINCENT DICKINSON.

A new stigma of hereditary syphilis occurring on the soft palate (*'La Pediatria,'* 1919, xxvii, p. 4).—**D. Tanturri** states that on thorough examination of the pharynx in small children, which should be carried out in spite of all difficulties, he has found a morphological change in the border of the soft palate in the neighbourhood of the junction of the anterior pillar of the fauces with the base of the uvula. This consists of a notching of the edge as if due to an erosion of the epithelial tissues or the mucous membrane. The actual loss of substance may extend to a depth of 1–2 mm. from the border of the soft palate, whose mobility is unimpaired. The lesion is bilateral, quite characteristic once noticed, and has been noticed a few days only after birth. He considers the sign to be pathognomonic of the disease.

SIDNEY NATHAN.

Congenital renal syphilis (*'La Pediatria,'* 1918, xxvi, p. 257).—**A. F. Canelli** states that this condition is relatively frequent, but rarely shows characteristic naked-eye appearances in the kidney, such as sclerotic atrophy, gummata or retention cysts. Amyloid kidney is not characteristic of renal syphilis. The nephritis of congenital syphilis is both acute and chronic, the latter being of the nature of atrophic sclerosis, the former of interstitial and parenchymatous nephritis, either tubular or glomerular, and sometimes hæmorrhagic. There exist, although rarely, late manifestations of congenital syphilis, giving rise to familial albuminuria. The absence of spirochætes does not invalidate the pathological diagnosis. Histological changes are multiple, but, with the exception of granulomata, have no special value in themselves.

VINCENT DICKINSON.

Nephritis in hereditary syphilis (*'Paris méd.,'* 1919, I, p. 65).—**V. Hutinel**.—The nephritis occurring in hereditary syphilis may be acute, subacute with acute exacerbations, or chronic. There is no form of nephritis characteristic of hereditary syphilis. The most striking feature in the acute forms of nephritis found in heredo-syphilitic children is that they often develop from such trifling causes, such as impetigo or a slight sore throat. In other cases the renal complication occurs in the course of influenza, broncho-pneumonia, an intestinal affection, or purpura. It is thus difficult to explain the appearance of the nephritis except by a special susceptibility of the kidney created by hereditary syphilis. There is often a striking discrepancy between the amount of the albuminuria and relative mildness of the functional disturbance. In spite of excessive albuminuria oedema is slight or absent, the blood-pressure is little raised, the circulatory symptoms are ill marked, and the permeability of the kidney little affected. Hæmaturia is less frequent than in tuberculosis, but the tendency to relapses is the same. Hæmoglobinuria is not uncommon. As regards treatment, mercury should be avoided, Hutinel having found that hæmaturia may occur even after mercurial inunction. The best results were obtained by intravenous injections of arsenobenzol, especially "914," but a rapid improvement or permanent cure must not be expected unless the treatment has been begun early.

J. D. ROLLESTON.

Congenital pulmonary syphilis (*'La Pediatria,'* 1919, xxvii, p. 11).—**A. F. Canelli** contributes a long article giving a fairly complete *résumé* of

the literature on this subject. He sums up as follows: Pulmonary syphilis in infants is frequently congenital and fatal, the diagnosis being made post mortem. The chief forms are: (1) Gumma; (2) bronchiectasis; (3) pneumonia. There is probably no connection between early congenital syphilitic disease of the lung and syphilitic disease of the spleen. The pleura are rarely affected. There is an association between congenital pulmonary syphilis and other pneumonic processes, notably tuberculosis.

SIDNEY NATHAN.

Heredo-syphilitic tabes in the child (*'Paris Méd.'* 1919, i, p. 20).

—**P. Lereboullet** and **J. Mouzon**.—The special features of tabes in the child are the slight degree of motor and sensory disturbance, the rarity of ataxia, the habitual absence of Romberg's sign, in contrast with the frequency of disturbance of the reflexes, the constancy of ocular disorders, sometimes amounting to amaurosis, and the frequency of bladder symptoms. The writers record a personal case in a boy, aged 15 years, who showed ocular palsy (complete paralysis of right superior, inferior and internal rectus), with loss of accommodation and reaction to light. There was no disturbance of gait nor any inco-ordination, the objective sensibility was completely normal and there were no sphincter disorders. The tendon and periosteal reflexes were very feeble, the right tendo Achillis jerk being completely absent. Frequent cramps were present in the right leg. On lumbar puncture cerebro-spinal lymphocytosis was found. The Wassermann reaction was partially positive in the blood of the mother, the patient and his younger brother. Under treatment by injections of grey oil the ocular paralyses almost entirely disappeared and no inco-ordination developed, but the reflexes remained weak.

J. D. ROLLESTON.

Relation of congenital syphilis to mental deficiency (*'Amer. Journ. Med. Sci.'* 1918, CLV, p. 549).—**W. H. Higgins**.—Of 50 mentally deficient cases admitted to the psychological clinic of the Medical College of Virginia, 21, or 42 per cent., gave a positive Wassermann reaction. Their ages ranged from 7 to 16 years, and with one exception were all white. There was a striking absence of congenital syphilis or organic lesions of the nervous system. Approximately one-half showed a general glandular enlargement. Defects of vision, tonsils, etc., were found no more frequently than in the non-luetic series. The most interesting physical sign was the malformation and caries of the teeth, one of three types of which was present: (1) Small, widely separated teeth with well-marked serrations on the upper and lower incisors. This was associated with moderate caries, especially about the root of the tooth. (2) A similar but much more advanced type of dental infection. (3) Teeth riddled with caries. No typical Hutchinson teeth were observed. Fourteen of the 21 cases were incorrigible, disobedient, or showed fits of temper unlike those seen in the ordinary child.

J. D. ROLLESTON.

Cure of a syphilitic meningitis by arsphenamin and mercury (*'Amer. Journ. Dis. Child.'* 1918, xvi, p. 161).—**I. M. Snow**.—A boy, aged 10 years, a fortnight after a fall on the head developed convulsions and intense optic neuritis. Ten c.c. of colourless, turbid cerebro-spinal fluid were removed under moderate pressure, and contained 466 cells per c.mm. and an excess of globulin and albumin. The Wassermann reaction was positive in the patient and both the parents. The acute symptoms lasted about three months. Mercurial inunctions were given every day for five months,

and arsphenamin at first every week and later every two weeks. Decompression and aspiration of the right ventricle were followed by no immediate relief save that the lessening of intracranial pressure gave the cerebral circulation a little more freedom. The lesion was probably a proliferative gummatous meningitis involving the cortex and spinal meninges, and also an ependymitis with an increase of cerebrospinal fluid and some hydrocephalus. No other symptoms of syphilis were present either in the patient or parents.

J. D. ROLLESTON.

The relative efficiency of the different mercurial preparations in the treatment of congenital syphilis in infants and children (*Amer. Journ. Dis. Child.*, 1918, xvi, p. 299).—**W. R. Ramsey and M. R. Ziegler** as the result of their experiments came to the following conclusions: In infants and children, mercury, when given by the mouth, by inunction or intramuscularly, is excreted, at least partly, by the urine. In newborn infants and older children mercurial ointment, when placed in contact with the skin without any friction being used, is taken up by the skin and excreted in the urine for a variable time after all treatment has been discontinued. By inunction mercury is readily taken up by the skin and eliminated in the urine for a considerable time. When one inunction is given, the maximum daily amount of mercury is usually eliminated during the following twenty-four hours, smaller amounts being eliminated for a variable time. When continuous inunctions are given there is an accumulation in the system and considerable amounts are eliminated at intervals with only traces between. It is therefore probable that it is unnecessary to have mercury in contact with the skin, either with or without rubbing, as often or as long as has been generally thought necessary. Mercury salicylate suspended in oil and given subcutaneously continues to be eliminated in the urine in appreciable amounts for eight days or longer. It is therefore probable that a repetition of the treatment not oftener than at intervals of eight days would be sufficient. Mercuric chloride given intramuscularly continues to be eliminated for eight days or longer. Calomel, 0.016 grm. every two hours for 4 doses, and grey powder, 0.03 grm. every three hours for 3 doses, continues to be eliminated for as long as nine days, the maximum daily elimination being usually during the twenty-four hours following administration. It is therefore probable that the daily use of any of the mercurial salts in the amounts usually prescribed is unnecessary and presumably harmful.

J. D. ROLLESTON.

Arsenical treatment of infantile syphilis by the intrarectal route (*Brazil-medico*, 1918, xxxii, pp. 234, 241).—**S. A. Filho** records four cases of congenital syphilis, aged from 2 months to 2 years, successfully treated by intrarectal injections of "914." The doses ranged from 3 to 10 cgrm. in 10 c.c. of distilled water, to which one or two drops of laudanum had been added. Three to six injections were given, with an interval of five to eight days between each. The bowel was always first emptied and then constipated by the use of paregoric. The arsenical preparation was retained as a rule for six to eight hours.

J. D. ROLLESTON.

Treatment of ante-natal and post-natal syphilis (*Brit. Med. Journ.*, 1918, ii, p. 541).—**J. Adams** describes the routine carried out at the Thavies Inn Venereal Centre for Pregnant Women, and reaches the following conclusions: (1) Syphilitic pregnant women can be treated with salvarsan, even up to the day of their confinement, with safety and every advantage. (2) A mother whose blood gives a positive Wassermann

reaction may, after treatment, be delivered of a child whose blood gives a negative reaction. The child may continue to thrive and give a negative blood test. (3) Syphilitic children can safely be treated by salvarsan immediately after birth. (4) Salvarsan, combined with treatment by mercury, has a more certain and quicker action in producing a negative Wassermann reaction in the child than in the mother. (5) In nearly all syphilitic children born alive, treatment can convert a positive Wassermann reaction into a negative, and such children appear to become healthy and show a regular weekly gain in weight.

J. ALLAN.

Soft chancre in a boy, aged $2\frac{1}{2}$ years ('*Wien. med. Woch.*,' 1918, LXVIII, p. 1094).—**M. von Zeissl.**—The child was brought to hospital for severe pain on defæcation. An ulcer was found at the anus measuring 3 cm. long by 4 cm. broad. The edges were undermined, and there was much purulent secretion in which Ducrey's bacilli were found. The ulcer healed rapidly under treatment by sitz baths thrice daily and dressing with dermatol gauze dipped in sterile water. The source of infection was not established.

J. D. ROLLESTON.

Otology, Rhinology and Laryngology.

Adenoids in infants ('*Le Nourisson*,' 1917, v, p. 65).—**A. B. Marfan.**—Adenoids are frequent in infants. They may even be present at birth. As a rule they develop before six months of age, and especially between three and six months. Before the age of two years much the commonest cause is congenital syphilis. The younger the child the more likely is syphilis to be the cause, so that the presence of adenoids before the age of one year is of considerable diagnostic value. Below the age of three months it is an almost certain proof of syphilis. After the age of three months syphilis still remains the most frequent cause of adenoids, but is no longer the only one, as other factors may intervene, such as tuberculosis, chronic dyspepsia, and prolonged and relapsing broncho-pneumonia.

J. D. ROLLESTON.

A device for the prevention and treatment of adenoids ('*Lancet*,' 1918, II, p. 240).—**I. Ormeston.**—The method consists in touching the nasal septum near the tip of the nose with a slightly irritant adhesive powder made from powdered iris root and soap. The stimulation should be repeated until a dry sneeze results. A handkerchief drill is then recommended. The children grip the bridge of the nose, and raise the elbow to the height of the shoulder and then blow forcibly. A marked improvement is at once noticed in the dyspepsia and constipation. Deafness due to Eustachian catarrh quickly disappears.

CHRISTOPHER ROLLESTON.

Case of abducens paralysis complicating mastoiditis; brief discussion of this complication as an indication for surgical treatment ('*Med. Record*,' 1918, xciv, p. 941).—**P. D. Kerrison.**—Case of a girl, aged 11 years. Had had left mastoidectomy two years previously, and right acute otitis media for five weeks. Acute symptoms subsided, discharge persisted; ten days later diplopia developed. No improvement seven days later. Mastoid opened. Pneumatic type, with pus in cells, granulations in aditus and attic vault. Examination of dura of middle fossa, sigmoid sinus and cerebellum showed nothing abnormal. Function of right external rectus improved two days after operation. The author discusses the question and decides in favour of operation in such cases.

MACLEOD YEARSLEY.

Acute retro-pharyngeal abscess ('*Med. Press*,' 1918, I, p. 468).—**Marfan** reports a case in a male infant, aged 14 months. The special predisposition of the infant is due in part to the anatomical distribution of the glands in the retro-pharyngeal space, which disappear with age, and the usually well-marked participation of the lymphatic system in young infants. Then come causes that predispose to adeno-phlegmons: convalescence from acute diseases, measles, whooping-cough, syphilis, tuberculosis, etc. Retro-pharyngeal abscess is always preceded by a preliminary stage of coryzal rhino-pharyngitis or adenoiditis; the child is feverish and suffers from insomnia, a nasal intonation, and nocturnal snoring. When the abscess forms there may be noted: (1) Functional disturbances such as difficulty of swallowing, possibly with spasm of the glottis, inspiratory "roaring," with possible retraction of the costal interspaces. This explains why it is often mistaken for croup. The voice has a peculiar timbre, described by Labric as the "voix de canard." (2) Physical signs—a visible swelling the size of a walnut. (3) Constitutional symptoms. The only rational treatment is operative interference, and this should be undertaken as soon as the diagnosis is made. Retro-pharyngeal abscess left to itself is inevitably fatal. Operation through the mouth is to be preferred to opening the abscess through the neck.

J. ALLAN.

The indications for tonsillectomy ('*New York Med. Journ.*,' 1918, cviii, p. 98).—**C. B. Welton**.—The removal of the tonsils is indicated under the following circumstances: (1) In all who have attacks of tonsillitis from time to time. (2) When there is chronic inflammation in and around the tonsils, even if they are not enlarged, as doubtless the crypts of the tonsils are filled with disease germs. (3) Pus in the tonsil. This is often difficult to discover before the tonsil is removed. (4) Chronic hypertrophied tonsils interfering with respiration, or tending to produce ear trouble or palpable glands under the jaws or cervical region. (5) If the patient suffers from rheumatism, nephritis, arthritis, neuritis, endocarditis, for which the tonsil is proved responsible.

J. PORTER PARKINSON.

The remote result of tonsillectomy in the young child ('*Interstate Med. Journ.*,' 1919, xxvi, p. 67).—**J. Zahorsky** considers that permanently enlarged pharyngeal tonsils causing mouth-breathing and deafness should be removed. When the faucial tonsils are deeply embedded and abscesses result because they cannot discharge their contents, they should be removed. When the tonsils have become injured by scarlet fever, diphtheria, or severe streptococcus infection, they should be removed. Similar treatment is required when infected tonsils lead to persistent adenopathy or endocarditis. The author regrets that the remote results of tonsillectomy in the young child have not been studied, and his own experience leads him to think that such children show an increased tendency to pneumonia.

MACLEOD YEARSLEY.

Chancre of the nasal fossæ ('*Il Policlinico*,' 1918, xxv, Sez. Prat., p. 510).—**G. Basile** records a case in a girl, aged 12 years, whose symptoms were muco-purulent nasal discharge and inability to breathe through the nose. Examination of the left nasal fossa showed a polypoid growth at the antero-inferior end of the nasal septum, pinkish in colour, and bleeding readily on being touched. There was a large painless gland at the angle of the jaw. There was no eruption. The swelling was removed. Smears from the growth and sections showed the *Spirochæta pallida*. The Wasser-

mann reaction was positive. The child had probably been infected by a baby which presented lesions of congenital syphilis round the anus.

J. D. ROLLESTON.

Direct laryngoscopy in 189 cases of croup (*Arch. of Ped.*, 1918, xxxv, p. 280).—**R. W. Gover**.—The desire for a more accurate means of diagnosis in croup led to the adoption at the Willard Parker Hospital, New York, of the almost routine examination by means of the laryngeal speculum. During 1917 over 200 cases were so examined, Gover's paper being based on 189. Of these 112 had membrane visible in the larynx and 77 had none. The duration of croup was slightly longer in the membrane than in the non-membrane cases. Of the former 36 and of the latter only 1 were intubated; 26 had membrane above the cords only, 20 membrane below only, and 66 both above and below. Membrane was noted on the epiglottis only five times. In 29 cases membrane was removed from the larynx with forceps; in 23 of these there was marked relief, although in only 14 was the relief permanent, while in 6 there was no appreciable effect. Of the 112 cases with laryngeal membrane only 59 had membrane in the fauces, and of the 77 cases with no membrane in the larynx 20 had membrane in the fauces. In 53 cases cultures were taken from the larynx. Of those with membrane 26 were positive and 8 negative, while of those without membrane 13 were negative and 6 positive; 5 of the latter showed membrane in the fauces. The advantages of laryngoscopy are: (1) In deciding as to the administration of antitoxin in a case of croup without faucial membrane. (2) The necessity of establishing quarantine, immunising or Schick testing contacts. (3) To avoid mistaking a foreign body in the larynx for croup. (4) As to the necessity for intubation one may safely wait for much more marked symptoms of obstruction in catarrhal croup than in the membranous type. (5) The occasional removal of large pieces of membrane with permanent relief. Gover maintains that there is no other method nearly as accurate in the diagnosis of laryngeal diphtheria as the direct laryngoscopic method.

J. D. ROLLESTON.

Laryngotomy in children (*New York State Journ. Med.*, 1918, xviii, p. 26).—**J. F. McCaw** reaches these conclusions: (1) That under certain circumstances laryngotomy becomes necessary and justifiable in children. (2) Although the pre-operative and post-operative care is most exacting and difficult to carry out and the mortality higher than in the direct method, this should not deter us from doing our duty when occasion demands it. He reports the case of a girl, aged 5 years, who had a papilloma of the larynx, in which this operative procedure was successfully carried out.

J. ALLAN.

Reviews.

THE DISEASES OF INFANCY AND CHILDHOOD. By HENRY KOPLIK, M.D. Fourth edition, revised and enlarged. 239 engravings and 25 plates in colour and monochrome. London: Henry Kimpton, 1919. Pp. x + 928. Price 32s. net.

THIS well-known and popular work, having reached a fourth edition, requires few words of commendation on its general merits, for it evidently meets the requirements of many physicians. It is undoubtedly an excellent

text-book on the subject, and free from the "Americanisms" which often jar the ears of British readers. The table of contents is unusually full, while the index is unnecessarily extensive. Perhaps the best section is that on nutrition and infant feeding, including the diet of later childhood. One would have expected more attention being paid to disorders of metabolism, and reference to the various diatheses. The author claims to have paid more consideration to acidosis, but it is only discussed in reference to cyclic vomiting, and no reference is made to post-anæsthetic vomiting and little to the acidosis of diabetes. The book is well up-to-date in so far as it includes recent work on the heart, blood diseases, and other affections. Rammstedt's operation is recommended for pyloric hypertrophy and the vitamine theory of scurvy is mentioned. The chief weakness lies in the shortness and somewhat ineffectual description of some of the more common diseases, and the classification will not meet with universal approval. Rheumatic fever is included among the specific infectious diseases and chorea with those of the nervous system. Tuberculous peritonitis would be placed with advantage in the section on peritonitis rather than that on tuberculosis, and one would have liked to see more reference to its diagnosis from intestinal indigestion and reflex colic—not even mentioned. The nervous system and its diseases take up a mere hundred pages. Many of the numerous illustrations add to the charm of the book, though others could be omitted as of little value and an additional cause of the high price. It is somewhat difficult to know for what particular class of readers one can recommend the works. Much of it shows the extensive practical knowledge of the writer, and is useful to every medical man. On the one hand the specialist will find no account of many of the rarer affections, *e.g.* cleido-cranial dysostosis, chloroma tower skull, intestinal atresias, etc.; while the general practitioner will find some of the minor ailments omitted or insufficiently described, *e.g.* common affections of the eye and colic. Hæmatoma of the sterno-mastoid is not ascribed to myositis. Asthma, mediastino-pericarditis, coeliac disease, inguinal hernia, and many of the surgical affections which come under those who practise among children are entirely neglected. In spite of these omissions we can strongly recommend this charming book as worthy of a place on the shelves of every practitioner.

E. C.

DISEASES OF CHILDREN. By GEORGE M. TUTTLE, M.D., Clin. Prof. of Pædiatrics, Washington University Medical School; Cons. Phys., St. Louis Children's Hosp.; and PHELPS G. HURFORD, M.D., Pædiatrician, St. Louis Lutheran Hospital, etc. Third edition. Pp. 599; 50 illustrations. Philadelphia and New York: Lea & Febiger, 1917. Price \$3.50.

THIS "Manual for Students and Practitioners" has, on reaching its third edition, been revised and enlarged, and for its revision Dr. Hurford has been mainly responsible. The volume is noteworthy for the precise orderliness of its contents. Each morbid entity is described under the headings of "Definition," "Ætiology," "Pathology," "Symptoms," and so on, ending with a section on "Treatment." This is certainly all to the good in such a book, and conducive to rapid reference and easy learning. The illustrations are excellent and well reproduced, the index efficient.

Comparing it with other text-books of much the same size, the present work is chiefly remarkable for the width of the field it covers. The authors' endeavour has been, seemingly, to give some attention to every disease rather

than to give minute information in the case of the more important and common conditions. Thus, although we welcome short descriptions of rare diseases, we cannot but notice that the authors have felt somewhat constrained by questions of space in certain sections of their work. We would suggest to them that they could gain more space for matters of purely pædiatric interest by omitting certain sections which are of little interest, assuming a familiarity with similar conditions in adults. As examples we may give hay-fever, alveolar abscess, nasal polyp, perinephric abscess, while others might be mentioned.

The authors are, however, masters of the art of condensation, and certainly no salient features of disease are omitted in the clear descriptions given. They are to be congratulated on the very large amount of information given in comparatively small space.

R. M.

GUY'S HOSPITAL REPORTS. Edited by F. J. STEWARD, M.S., and HERBERT FRENCH, M.D. Vol. lxi, being Vol. liv of the Third Series. London: J. & A. Churchill, 1918. 7 plates. Pp. 277. Price to subscribers, 6s.; to non-subscribers, 10s.

In addition to sympathetic obituaries of the late Sir Henry Howse, Dr. Peters Horrocks, and Mr. W. A. Brailey, the two first being from the pen of Sir Frederick Taylor, this volume contains a number of interesting articles. In a study of the compluetic reaction in 100 cases of amentia, Dr. H. F. Stephens insists that this test should never have been called the Wassermann reaction, for the Belgian Professor Bordet first studied and established its essential principles, and if names are to be employed the correct designation from the point of view of priority would be "the Bordet-Gengou phenomenon in syphilis," but the author prefers "compluetic," which he has constructed by condensation of the words "complement" and "luetic," to express the phrase, "the complement-fixation or deviation phenomenon in syphilis." Out of the 100 aments 42 gave a positive reaction, but only 12 of these are regarded as truly positive; among 81 cases of simple amentia a positive reaction was obtained in 32 per cent., and appeared to be more frequent in simple primary than in simple secondary amentia. Out of eleven Mongols three only gave a positive reaction, one being "weakly" and the other two "doubtfully" positive. The syphilitic infection is regarded as not wholly responsible for the amentia, but as associated with and acting on inherently defective, diseased and degenerated, or damaged tissues. In an article on some acute abdominal pains which do not require operation, Sir F. Taylor points out that the abdominal symptoms in Henoch's purpura may come on early, whereas the purpura may not appear until late and then be relatively slight. He quotes Dr. Sutherland's dictum that these patients throw themselves about on account of the pain, whereas the subjects of peritonitis do not. In his suggestive essay on multiple mesodermal tumours of the uterus associated with multicentric carcinomas, Dr. Nicholson refers to small cysts, derived from the remains of the Wolffian body, described by Meyer in the epididymis of newly-born children, which in rare instances are squamous-celled and usually disappear and are not of any importance; but in conjunction with Mr. Rowlands he describes a primary squamous-celled carcinoma of the epididymis, probably arising from one of the tubules of the Wolffian body. Dr. Gordon Goodhart records an adenoma of the choroid plexus so fixed in the lateral ventricle of an infant, aged 7 months, that it could not by obstruction cause the accompanying hydrocephalus.

The novel suggestion is made that the hydrocephalus was due to secretion by the cells of the tumour. From 14 collected cases it appears that adenoma of the choroid plexuses usually occurs in the fourth ventricle (10 out of 14), sets up various cerebral symptoms, and is fatal within six months from the onset. The importance of temperature in relation to anæsthesia is considered by Professor Pembrey and Dr. Shipway, who show the advantage of "warm" over "open" ether in maintaining the vitality and resistance of the patient.

H. D. R.

MANCHESTER BABIES' HOSPITAL: MEDICAL REGISTRAR'S ANNUAL REPORTS, 1916-17. Manchester: University Press. Price 3s. 6d. net.

THE reports show, as before (*vide* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1917, xiv, p. 159), evidence of very close study of individual cases, and a careful attempt to assess the part played in the disturbance by dietetic factors and by infection. The cases are not classified under headings of any sort, but appear in order of admission. We doubt whether such an arrangement makes it possible to derive much profit from the study of these reports. The most careful reading cannot give a sufficiently clear picture of the clinical problem. They are valuable as evidence of the careful work done in Manchester rather than as a contribution to the literature of the subject.

H. C. C.

UNIVERSITY OF IOWA MONOGRAPHS. STUDIES IN MEDICINE. Vol. i. No. 3. Published by the University. Price \$0.40.

THIS issue is a collection of fourteen papers which have been previously published in various journals. The following will be found of special interest: "Report of a Case of Co-existent Carcinoma, Tuberculosis and Syphilis of the Oesophagus," by L. W. Dean and J. B. Gregg; "The Mineral Metabolism of Experimental Scurvy of the Monkey," by C. P. Howard and T. Ingvaldsen; "The Varying Susceptibility of Children to Acidosis," by Margaret Sawyer and F. A. Stevens; and "Butter as a Vehicle of Infection in Typhoid," by Mark F. Boyd.

J. D. R.

CATALOGUE OF LEWIS'S MEDICAL AND SCIENTIFIC CIRCULATING LIBRARY, INCLUDING A CLASSIFIED INDEX OF SUBJECTS. New edition, revised to the end of 1917. London: H. K. Lewis & Co., 1918. Price 12s. 6d. net.; to subscribers 6s. net.

THIS book is divided into two parts, the first consisting of an alphabetical list of the authors, with the titles, prices and dates of publication of their works, the second part being a subject catalogue with the names of the authors. The volume will prove a valuable guide to the various departments of medical and scientific literature.

J. D. R.

DEUX CENT CONSULTATIONS MÉDICALES POUR LES MALADIES DES ENFANTS. Par le Dr. COMBY, Médecin de l'Hôpital des enfants malades. 5^e Édition. Paris: Masson et Cie., 1919. Price 5 fcs.

THIS work, which has been specially designed for the busy practitioner, consists of practical rules for the principal diseases of children. To facilitate reference each disease is dealt with in alphabetical order, a brief description of its clinical features being appended.

J. D. R.